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Bronchoscopy in Oklaohoma*

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"Bronchoscopy," the word, is used to include all forms of peroral endoscopy. In this section of the country it is very definitely a special field within the field of otolaryngology. There are a very few general surgeons within our state who, with minimum of equipment, still attempt some endoscopic procedures but this work is predominately in the hands of the otolaryngologists. This is partly because it was developed within the ranks of the laryngologists and partly because in their everyday work rhinologists and laryngologists are accustomed to working through narrow apertures and are of necessity trained to judge distance and depth by the aid of vision of but one eye at a time.

There is an increasing number of surgeons in our state who have adequate training and equipment for the performance of bronchoscopic procedures. Bronchoscopy has become a routine part of the curriculum in all the long organized graduate courses in otolaryngology. This field of work, when viewed in the large hospitals where training in its technique may be obtained, is peculiarly inviting to the young graduate student. In such surroundings it is almost commonplace surgery and also highly spectacular. There are comparatively few men with a large experience in it. They are apt to be looked upon as ultraspecialists and able to command large fees. Too, in the large clinics equipment is easily available, assistants are plenteous and well trained and the work does not appear to be particularly dificult. What then is more attractive to the beginning otolaryngologist than to be able to undertake bronchoscopy when entering practice in his chosen community.

Let us consider some of the difficulties that may beset the young otolaryngologist when entering upon a bronchoscopic career. First of all the cost of an adequate instrumentarium is apt to equal that of all the remainder of his professional equipment. Then he discovers that those cases which are so satisfactory and spectacular in that lives are saved by skillful surgery in dire emergencies are few and far between. Then also the economic returns from such cases are apt to be meager indeed. Even Chevalier Jackson states that 91.9 per cent of his foreign body cases were charity or part charity cases. The young bronchoscopist is discouraged too by the seeming fact that cases are referred to his care only after everything else has been tried in an effort to avoid his manipulations. Cancer of the larynx is apt to appear only when it has become so extensive that an emergency tracheotomy is needed. He can then refer them, only at times hopefully, to the roentgenologist. There are also technical difficulties. In the hospital where training in bronchoscopy was obtained there were instantly available trained or partially trained assistants, the operating room facilities and instruments were quickly set up and available on order and there were nurses at least sufficiently trained to keep the in-

*Chairman's Address, Section on Eye, Ear, Nose and Throat, Annual Meeting of the Oklahoma State Medical Association, Muskogee, Oklahoma, May 10, 1938.

struments in working order. Without all of these things he finds himself seriously handicapped in efficient bronchoscopic performance. He has perhaps been taught that general anesthesia, especially ether, is not only not necessary but adds greatly to the danger of endoscopic procedures. He finds, however, that it is the only available substitute for trained assistants in a great deal of his work.

There are members of this section who have successfully practiced bronchoscopy under all the above difficulties for many years. Those years have comprised the period when the only bronchoscopic cases were those of foreign bodies, lye burns of the esophagus and advanced obstructive lesions of the larynx. Theirs has been the arduous labor of pioneers in any field of endeavor. Several of these men have relegated bronchoscopy to younger men and we have been deprived of their wisdom and skill gained in the school of experience.

Those essentials for efficient performance, technical skill and manual dexterity are gained only through experience. In our state bronchoscopic cases have been too few for experience to be gained by many. This situation is gradually but definitely changing. The everwidening field of usefulness of the bronchoscope is becoming more widely recognized. Those of us who engage in bronchoscopy have had and are obtaining better training before starting it. The bronchoscopist is being recognized as a necessary consultant to the internist, the surgeon, and the roentgenologist in the proper diagnosis and treatment of many difficult cases.

In the clinic at the Crippled Children's and University Hospitals each succeeding year shows an increase in the proportionate number of cases treated by bronchoscopy for conditions other than foreign bodies. More cases are being referred for diagnostic procedures and for treatment. This condition is of course more easily obtained in institutions where medical, surgical, and other consultative services are definitely organized. In private practice the development of wider bronchoscopic usage is coming more slowly. We who are practicing bronchoscopy can aid in this by more widely publicising our work among the members of the medical profession.

The intensive campaign for earlier diagnosis and treatment of cancer in general is a very large factor in the increasing number of cases which are being referred for bronchoscopic procedures. A positive diagnosis of primary carcinoma of the lung can be made sufficiently early and with sufficient exactness to warrant hopeful therapy only by bronchoscopic visualization and biopsy. Carcinoma of the larynx is among the most curable of malignancies if it is diagnosed and properly treated when it is still early. The only early symptom is usually merely a persistent hoarseness. Entirely too many cases are being treated for laryngitis or not treated at all until laryngeal obstruction occurs. Biopsy of suspicious laryngeal lesions is a minor procedure with no operative risk and with but small inconvenience to the patients. Its importance in indicated cases far outweighs that inconvenience. Tonsillectomy is performed by each of us almost every day with much less important indications, with much more inconvenience to the patient and with a higher operative risk.

Each of the last several years has added one or more new members to the group who are practicing bronchoscopy in Oklahoma. As our field of work is enlarged well trained hands are being added to those who do that work. To these men I would speak a word of encouragement. May they each year find themselves increasingly able to take better care of more patients. I would praise those who have labored in this field under the handicaps of past years and I implore them not to deprive us of the hardwon wisdom of their years of experience.

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DISCUSSION

Millard F. Arbuckle, M.D.: Mr. Chairman and gentlemen, I cannot allow this opportunity to pass without thanking Dr. McHenry for his paper on this subject and to commend his stand on the matter of Bronchoscopy. This of course is the accepted method of dealing with foreign bodies lodged in the trachea-bronchial tree but in addition there is a much wider field of use, namely, the diagnosis and treatment of diseases of the traceho-

bronchial tree. This is a most important adjunct and in some cases the only method in which the diagnosis may be definitely established. I refer particularly to tumors of the bronchus. By visual examination and guidance, i.e., bronchoscopy, we may also establish the etiological factor in bronchiectasis or lung abscess in many cases and localize the lesion. Many cases of lung abscess are improved and some cured by bronchoscopic drainage and medication. Patients with bronchiectasis are benefited by bronchoscopic examination and treatment, not only from the standpoint of improved drainage but also by the help which exact localization affords. The value of bronchoscopic study of pulmonary disorders of more or less obscure nature are appreciated more than previously but there still is much to be said concerning the matter of educating the medical profession as to the value of this important therapeutic procedure as well as the general public. Some medical men are fearful of having their patients bronchoscoped because of the possible harm to the patient. After a rather considerable experience in the study of diseases of all types, we have found that with proper procedure all patients may be bronchoscoped safely.

* * * *

Presentation of Post-Operative Cancer of the Larynx

This patient, Captain C. A., age 44 years, came to me four years ago with a history of hoarseness and the usual experience of having had his throat sprayed and treated and given cold expectorants for a long period and being told to return in a day or so, without any relief. Finally at the suggestion of Dr. Nowlin Holcomb he came in for laryngeal examination. He had a mass on the free surface of the cord in the middle third. Fortunately for him this was still localized to the true vocal cord, and it is now well recognized that cancer of the vocal cord still limited to the cord can be cured by surgical removal in over 82 per cent of the cases and at the same time the patient may be left with a larynx serviceable for phonation and respiration as is true in this case. Neck dissection is not required in this type of case because of the poor lymphatic supply and lack of invasion of the glands while the tumor is still localized to the vocal cords. Once the tumor has invaded the external portion of the larynx, glandular involvement is almost certain to be found and the rate of curability is considerably decreased. My reason for mentioning the type of treatment given this man for the first few months and the delay in diagnoses is that we have found by experience that many cases of cancer of the larynx are thus treated until it is too late. Unless one realizes that cancer of the vocal cord is free of pain and that the only symptom is continued hoarseness, and that early diagnosis and treatment means cure and late treatment means doubtful cure, he will not understand the importance of insisting that patients with continued hoarseness have at least one competent laryngeal examination. Apparently the Captain is cured and is able to carry on with his normal duties with the National Guard.

The Present Status of The Serum Therapy of Lobar Pneumonia

M. A. Blenkenhorn, Cincinnati (Journal A.M.A., Oct. 1, 1938), states that complete typing of all cases, through the entire 32 types, is the keystone of serum treatment and may provide the necessary information leading to the prevention of pneumonia. In parts of the United States in which typing has been practiced, treatable types comprise more than 50 per cent of all cases of pneumonia, save only in certain districts in the South. Now that other therapeutic serums (V. VII, VIII and probably many more by the device of rabbit serum) have been developed, the percentage will be higher. Neufeld typing of the sputum and cultures of various body fluids is a rapid and accurate method of bacteriologic diagnosis of pneumococcus types. The selection of patients for efficient and satisfactory treatment requires early diagnoses by the physician and intimate consultation with the bacteriologist. Serum must be given in adequate dosage by vein, and a double dose must be given when blood cultures are positive. Serum must be injected slowly after sensitivity tests are found negative, but the entire dose should be given during the first 24 hours. Serum accidents have been extremely uncommon and the danger of reactions should rarely preclude treatment. Refined and concentrated horse serum for type I and type II pneumonia when given during the first 24 hours is a specific comparable to the best specific biologic remedy, save only diphtheria antitoxin. When given within the first four days of the disease, the mortality rate of pneumonia may generally be reduced more than 50 per cent. In the author's experience of three years the mortality was reduced 76 per cent. In 1937 approximatley 20 per cent of patients with type I and type II pneumonia in the United States were treated with serum.

Important Notice on Editorial Page

Observation From the Current Year's Experience With Medical Cases in a Children's Hospital*

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Let us begin with the mention of the feature of the year which was the epidemic of poliomyelitis in the four months of July, August, September and October. As usual the public showed great fear, in some cases amounting to hysteria. The collapse of vaccine immunization which was attempted in 1936, as well as the failure of convalescent serum to prove itself effective, left the profession without any protective or curative treatment. In the early months of 1937 reports were published in the Journal of the American Medical Association of the recent use of zinc sulphate spray of the olfactory tract for the blocking of virus entrance to the central nervous system. You are familiar with these reports. No coordinated effort was made in our community to use a standardized procedure or to recommend it. It was too soon to learn whether this treatment immunized or was practical on any scale.

TORONTO'S RECENT EXPERIENCE WITH POLIOMYELITIS

In October, 1937, I had the privilege of visiting the Children's Hospital in Toronto to learn something about the current Toronto epidemic of this disease affecting about one person in each one thousand of the population and totaling about 2,000 cases in the province of Ontario. The epidemic brought response on the part of the University, newspapers, citizens, hospitals, and physicians to provide quarters for afflicted children, to manufacture braces and respirators, above all to make a careful investigation of the zinc-sulphate nasal spray as a preventive of poliomyelitis. The latter was managed in this fashion: advertisements in the daily papers that parents bring children to special clinics for receiving the spray at the hands of laryngologists, resulted in nearly 5,000 children being given two such treatments. From corresponding sections of the city came approximately 6,000 other children who were used as controls, not being given the nasal spray. The two treatments were spaced at 12 days. About 25 per cent lost temporarily the sense of smell, but all children were regarded as equally well sprayed.

The Toronto findings:

Of 4,713 children sprayed—11 developed poliomyelitis.

Of 6,300 children of control group—18 acquired the disease.

The attack rate for identical periods in both groups:

2.1 per 1,000 sprayed children.

2.9 per 1,000 of control group.

The committee reports in the Canadian Public Health Journal for November, 1937, that the study shows no evidence of protective value from nasal spray of one per cent zinc sulphate mixture, given with suitable equipment, on two occasions, with 12-day intervals and done by trained laryngologists; it is not a practical public-health measure.

A Few Incidents of the Small Epidemic in the Kansas City Area. In the Kansas City area there were four children who contracted poliomyelitis within two weeks following operation for removal of adenoids and tonsils. This discouraged some of us from recommending tonsillectomy in the presence of epidemic poliomyelitis; the traumatizing of the naso-pharynx may interfere with whatever protective barrier there may be in the naso-pharynx.

Kansas City, Kansas, kept open the public schools throughout September and thereafter. Kansas City, Missouri, did not open them during this period which was in the decline of the epidemic. There was no evidence in either community that these

*Read at the Annual Meeting of the Oklahoma State Medical Association, Muskogee, Oklahoma, May 11, 1938. From the Department of Pediatrics, School of Medicine, University of Kansas, Kansas City, Kansas.

methods had any influence upon the disease. The public health authorities in certain crowded cities, London, New York and elsewhere have stated that nothing is gained by closing the schools. In Kansas City the children continued going to the movie theater. One child was admitted to our hospital directly from the movie theater in which she became paralyzed. She walked into the theater, but was unable to walk out.

A mother brought her child to our hospital for tonsillectomy; the mother herself was at the time found to be in the acute stage of poliomyelitis, involving the deltoid of one arm.

One infant, age 11 months, was brought from across the state because of supposed paralysis of the intercostal muscles and diaphragm on one side. The family was greatly pleased when the disease was found to be a one-sided pleuropneumonia and not infantile paralysis.

It is apparent that the disease is not highly contagious, as is measles, for poliomyelitis often appears as an isolated case, while measles is never sporadic.

Measles

Our winter and spring epidemic has been measles. Hospitals for children have their troubles during measles epidemics. The whole personnel of the institution must become measles-conscious. One innocent little girl of two years entered our wards for correction of cross eyes; within two or three days she began to have fever, and operation was deferred because of the appearance of fever. A consultation revealed the catarrhal invasion of measles. All the other susceptible children in the same room contracted the disease from her. Hospital admissions of children will ordinarily be stopped during an epidemic except for immunes or emergencies. This little girl however did us a good turn in providing several three to five c.c. doses of blood which we citrated and gave later to contacts in the hospital. Her blood was taken six days following the measles crisis. If given a few days after exposure, the disease will usually be modified. We used adult immune blood in 10 to 15 c.c. doses intramuscularly or Dr. McKhan's Placental Immune Extract in some cases for these purposes. One child with active purpura hemorrhagica who developed measles in our hospital was apparently improved temporarily by the disease.

Encephalitis Secondary to Measles. About one case in 200 children with measles develop nervous symptoms on the fourth to sixth day, when the rash is beginning to fade. In our hospital we took care of three such cases of post-measles encephalitis. One child was five years old, the other two were six years.*

The first child was lethargic for about one week, and soon recovered without incident, but remained somewhat more excitable than before the measles. The second child was profoundly somnolent, and had fever notably 107.5° F. on one of the early days. The duration of his unconscious state was five days. The temperature came gradually to the normal, complicated by a mild otitis media. One would expect behavior abnormalities from such a lethargic case, but as yet there seems to be none. The third child had no fever, no somnolence but throughout was irritable, irrational, had hallucinations; she had to be restrained. The administration of large doses of phenobarbital soluble had no effect. The use of chloral hydrate, 10 grains, combined with bromide, 15 grains, was effective given every four hours when needed. The rectal injection of avertin to produce narcosis was necessary and successfully used for spinal puncture or when any unusual examination or treatment was undertaken. For one week this child was given progressive daily doses of typhoid vaccine to produce shock and fever, which it did, apparently with good results and surely without bad ones. She had made a complete recovery in one month from beginning of her disease which we designated post-measles toxic psychosis[1], but which we believe had a basis of encephalitis. The number of spinal fluid cells at the beginning was 23 per cmm.

Discussion: The development of encephalitis after the fever of measles has subsided is difficult to explain. It may be caused by the toxins which are left from the active infection; neurological sequellae may be produced by a secondary invader, as is sometimes the case with cardiac disease and nephritis after the acute febrile

*Hospital Case Numbers 71008, 71012, 71046.

1. Toxic Psychosis Following Measles; H. R. Bathurst Norman, The Lancet, London, p. 684, September 19, 1936.

period of scarlet fever has passed. It has been suggested that certain cases of measles may have a strain of the virus which is neurotropic.

Use of Repeated Blood Transufsions in Bronchopneumonia Complicating Measles and Pertussis. There were several children with the much dreaded bronchopneumonia secondary to measles, and one complicating pertussis. In protracted cases of secondary pneumonia the pathology is now known to involve the entire framework of the lung, and is known as interstitial pneumonia. It is evident that repeated blood transfusions may save life in these instances if given early. Therefore wherever possible, and especially early, we transfused the children about every other day for a few times, giving small amounts in the neighborhood of 100 to 200 cc. Secondary anemia is common in bronchopneumonia of the secondary type; early transfusion may prevent this or bring about an early recovery through the increased oxygen-carrying power of the augmented blood volume and hemoglobin.

The interstitial type of pneumonia which accompanies or follows measles is usually serious, often fatal, and any case that gets well is memorable. The following case received two transfusions, the effect of which upon the course is shown from the data below:

Dorothy, Age 4, Hospital Number 70,695,
Secondary Bronchopneumonia

	rbc	wbc	pmn	hb
Feb. 4, 1938	3,720,00	21,000	81	65%
Feb. 5, Transfusion 225 c.c. blood				
Feb. 6, Transfusion 125 c.c. blood				
Feb. 7, Oxygen by nasal catheter	4,150,00	28,200	95	76%
Feb. 9, Critical drop in fever.				
Feb. 12,	4,580,00	16,600	69	81%

This child was in a serious condition on admission but recovered on the eighth day and left the hospital in a good state of convalescence.

Low Urinary Threshold for Sugar in a Case of Diabetes

We are accustomed to regard the presence of a small amount of sugar in the urine of the treated diabetic child as a safeguard so that shock may be more easily avoided following the administration of insulin. With the simple apparatus now available for every physician and for every home the percentage of urinary sugar is easily estimated. In certain children the renal threshold is high; no sugar may appear in the urine until the blood sugar is far above the normal range of 80 to 130 mg. It sometimes happens that there may be no glycosuria until there is a glycemia 160, 200 or even higher. In such instances the child could suddenly and insidiously go into coma.

One of our cases this winter, a 13-year-old boy (Hospital No. 69869), with diabetes of only a few weeks came in with acidosis, 14 per cent CO-2 combining power and a blood sugar of 600 mg. With immediate insulin treatment of 45 units and clysis of 800 c.c. of 2½ per cent glucose in saline solution, he made immediate improvement, and his vomiting was stopped by lavage.

He was prescribed a daily diet of carbohydrate 240 grams; protein 90 grams; fat 90 grams; on this his body weight increased rapidly. The total calories provided by this diet are roughly 2,100, distributed as follows:

Calories as carbohydrate	50%
Fat	35%
Protein	15%
TOTAL	100%

This proportion of food factors is now widely recommended for juvenile diabetes.

On one occasion blood sugar came down to as low as 80 mg. but the patient was still passing sugar, as much as an ounce (30 grams) in 24 hours. This urinary sugar would mislead the physician into the belief that the patient had a dangerously high blood sugar. The patient soon got along well on 25 units of protamine-zinc insulin once daily, showing only a trace of sugar. He is a very intelligent boy, can weigh out his own diet, estimate it in grams of carbohydrate, protein and fat, and inject himself with the prescribed dosage of insulin.

Clinical Disturbance From Unrecognized Fracture of the Skull in Young Children

Case Number 1. Bilateral Subperiostal Hematomata: Infant three months of age, Hospital No. 69581. This infant fell out of bed a distance of 18 to 20 inches, and was noticed to develop a hematoma on each side of the head overlying the parietal bones. These lesions were entirely similar in appearance to the cephalhematomata of the newly born. The periosteum of both bones was elevated by the hemorrhage underneath. We thought we had to deal with simple hematomata but as a matter

of precaution we made a roentgen film. This showed a simple fracture of each parietal bone. The recovery was without incident, and the line of fractures became indistinct in a film taken several months later.

Case 2. Clinical Resemblance to Prevertebral Abscess. Hospital No. 71282. The school teacher reported that this five-year-old boy had begun to get sleepy in school; he continued to be drowsy, he began to be feverish, cyanotic, to vomit and show difficult swallowing. Finally a hemorrhage occurred from the ear. He was brought into the hospital three weeks after the beginning of symptoms. His striking appearance was that of the cellulitis of left side of neck, also a bulging left side of the pharynx. The lateral roentgenogram of the neck showed a prevertebral swelling with forward displacement of the trachea. Through an oversight a requested film of the skull was not made. The breathing and swallowing were becoming more difficult. The whole picture seemed to make out a good case for retropharyngeal prevertebral abscess. The case was referred to the nose and throat department for operation. On the operating table a large amount of blood escaped from the incision made in the bulging pharynx, following which the boy suddenly died. The family then recalled that the boy had fallen on his head three weeks before, but no importance was placed by them on that incident.

The autopsy findings were a fracture of the temporal bone on the left side; the formation and infection of a retropharyngeal hematoma; extension of a streptococcus cellulitis from the jugular vein thrombosis. The sudden death was probably due to the edema present, found in the midbrain and medulla. The opinion was expressed at the autopsy that an X-ray film of the skull would not have revealed this basilar fracture.

Treatment of Pyuria in Children

Those physicians who have practiced for several years know the former unsatisfactory treatment of some types of pyuria included under the name of pyelitis. Almost within the past two years, more effective bactericidal agents have become available and practical, which are used with success, marking one of the greatest advances in drug therapy. Usually the most desirable is mandelic acid, which is available in several forms, under the name of ammonium mandelate, offered in a vehicle of syrup. Cure is rapid and spectacular, both in acute and chronic cases. The safeguards and limitations are that the fluid intake of the child shall be considerably less than 1,200 c.c. in 24 hours in case there is no fever, and the function of the kidney must be normal enough to permit the excretion of sufficient acid phosphates to prevent throwing the child into acidosis.

Among our pyuria cases this year I would like to report the handling of one acute, one subacute, and one chronic.

1. Pyelitis in the Newborn. Boy, Hospital No. 71144. On the second day of life the infant manifested fever which in the newborn is most commonly due to dehydration. A routine examination of the urine showed 140 pus cells per cmm. in centrifuged specimen. Fluids were forced by mouth, and during 18 hours, clysis of 75 c.c. of salt solution was repeated three times. In treatment begun at the onset of mild acute cases, fluids and alkaline — forming fruit juices such as grape and orange may cure, due to flushing out the urinary tract by the diuresis.

2. Subacute Pyelitis. Betty Ann, age 2½ years, Hospital No. 65214. Admitted February 22, 1937. This girl had a colipyuria. For the first seven days there was a high septic fever, with nearly 2,000 pus cells per cmm. of urine on the day elixir of mandelic acid (dr. 2) was begun. Ammonium nitrate gr. v was added to make the urine more acid, both drugs being given at four hour intervals day and night. The pH of the urine dropped from the alkaline level of 8.6 before beginning of treatment to 5.5 and 5.1 within a day and remained there. On the ninth day the pus cells had entirely disappeared. A leucocytosis of 20,000 and a polymorphonuclear percentage of 80 was found during the acute inflammatory stage, which is a common finding in pyelitis.

After discontinuing the mandelic acid a relapse occurred so that treatment was again begun, and the pus disappeared within two days. Treatment was continued for a week longer when culture of the urine gave no growth of B. coli.

The mandelic acid should be given in conjunction with other acidifiers of the urine to reduce promptly the pH to 5.5 or lower. The size of the dose of mandelic acid will probably be smaller when ammonium chloride or nitrate is used as an adjuvant. A ketogenic high fat diet, along with juices such as cranberry, prune or plum will assist in the acid concentration of the urine. At present there are many preparations of mandelic acid and its salts. It is well to remember that most of the liquid preparations are unpleasant to the taste. A child old enough to swallow a tablet will escape the disagreeable flavor of the liquid preparations.

3. Chronic Case Complicated by Contamination from Colostomy Opening. Olive Jean, Hospital No. 65335. Admitted January 18, 1938. This unfortunate little girl born with imperforate anus, vaginal fecal fistula, had been operated upon to produce an artificial anus in the perineum by colostomy. Finally, possibly through contamination of the urethral meatus, there developed a severe colon bacillus pyuria. The child came into the hospital prostrated by the infection. Sulfanilamide was given but was not well tolerated nor effective. She was put on mandelic acid in the form of syrup amdelate, the dosage being one teaspoon four times in 24 hours for eight days. At the beginning of the treatment there were 16,000 pus cells per cmm. of urine; on dismissal the 10th day of the treatment there were only 10 or 12 cells per high power. She has now been well for months.

It has been advised that mandelic acid should be used only when the patient has good kidney function without severe abnormality or damage, or high blood pressure due to nephritis. A recent report* of 51 children with acute and chronic pyuria credits this drug with 39 cures of the infection. It is necessary to separate cases into acute and chronic and simple or complicated before one can assess the value of any treatment. The figures just mentioned would not be so impressive as a result in acute cases; they would be excellent where there is no malformation or gross abnormality in the urinary tract. This much can be said, however, that many acute cases have not been cured by previous methods of treatment; that periodic examination for pus and for negative cultures is essential; it may be that the thorough treatment of acute cases by recent methods will soon result in almost complete prevention of chronic pyelitis in children.

*Indications for the Use of Ammonium Mandelate in Pyuria in Children; W. E. Wheeler, N. E. Jour. of Med. 217; 643; October 21, 1937.

In children 12 grams of the salt are frequently used for the 24 hours' quantity. In children the following quantities have been generally used.

Age	Ammon. mandel.	Fluid intake
Under 1 year	3 gm.	450 c.c.
1 to 2 years	4 gm.	500 c.c.
3 to 6 years	5 gm.	500 c.c.
7 to 9 years	6 gm.	600 c.c.
10 to 12 years	8 gm.	800 c.c.

Atrophy in Frontal Lobe of Cerebrum

Jimmy F., age nine years, Hospital No. 69713. Admitted December 1, 1937. There had been convulsions with increasing frequency throughout childhood. He weighed 3½ pounds at birth. At present he falls frequently, walks with a wide base, is unsteady, knee jerks are absent, a Rhomberg is present, the head circumference normal. The boy is pleasing in appearance but he is anti-social in behavior, being very incorrigible. He has delayed speech. It is our present custom in cases of long-contiued recurring convulsions to include a spinal puncture and introduction of air for the purpose of making encephalograms of the head.

The encephalogram in this case shows cortical atrophy, with much lack of development in the frontal area. In some cases of petit mal improvement may occur from injection of air.

Two Cases of Acute Meningitis From Undetermined Micro-Organism

1. Charles S., age 12, Hospital No. 70140, admitted December 31, 1937. Discharged well January 6, 1938. This boy had been sick one week with low fever and some vomiting. The day before admission he became worse and it was thought that he had a brain tumor. By the time he reached the hospital the temperature was 105° F. with all symptoms of meningitis present; spinal fluid contained 5,000 cells, mostly polymorphonuclear, the globulin test positive. Organisms were not found in the spinal fluid on smear nor in culture using brain broth and blood agar plates innoculated by allowing the spinal fluid to drip directly from the needle to the culture medium. The failure to find bacteria does not warrant the neglect of serum admin-

istration, so 20,000 units meningococcus antitoxin were given intravenously diluted with 400 c.c. of saline solutions. This was done within 16 hours after admission. Because of the obscurity of the type of meningitis and its severity prontosil was administered intraspinally and intramuscularly, and by mouth also. The prontosil was repeated on the fourth day. He was given no serum intraspinally. The 5 c.c. of 2½ per cent prontosil was diluted by adding 10 c.c. of saline, making an 0.8 per cent solution for the intraspinal injection; the intramuscular injection of a 5 c.c. ampule of 2½ per cent solution was not further diluted. The boy walked out of the hospital cured on the seventh day, at which time his photograph was taken.

2. Douglas K., 13 months, Hospital No. 69613. Admitted November 24, 1937. He had been sick one month. His symptoms were those of meningitis in the acute stage with 1,900 cells mostly lymphocytes at the first puncture. The culture of the spinal fluid showed a growth resembling meningococcus but the diplococci were gram negative. The bacteriological laboratory was unable to identify this type of micro-organism.

The child was given no serum. His treatment was sulfanilamide grains v 3 times daily; prontosil 4.5 c.c. (2½ per cent) diluted in 10 c.c. of normal saline intraspinally. He was given also a blood transfusion. As a result of examining blood for donors both the father and mother were found to have a four-plus Wassermann; the child likewise had a similar reaction. The child made a prompt and complete recovery from the meningitis. However, we sent him home with the recommendation that stovarsol be given, although no symptom of syphillis other than a positive Wassermann was present.

Facial Lipodystrophy in Two Boys

Hospital No. 56254 and 71615. This year we have had the opportunity to hospitalize at the same time two cases of this rare but striking disease. It is only within the past 15 years that this wasting of the facial fat has become clinically known. It has been called progressive lipodystrophy, but one who has watched the course in such individuals feels that the disease is not progressive nor does it produce sickness nor death. The atrophy of the facial fat begins at the fifth to eighth years of childhood with the characteristic hollowing of the cheeks. This is so obvious that the diagnosis may be made by inspection of the face alone.

Facial Lipodystrophy in Boy of 11 Years. (Notice also some wasting of the fat in upper part of the torso.)

There is in some cases the loss also of some subcutaneous fat of the neck, arms, chest, and abdomen. In girls there seems to be an increase in fat in the region of the abdomen and pelvis; in fact the contrast between the thin face and the well-developed body is grotesque. Parkes-Weber of England likens the body of a girl with facial lipodystrophy to the witch in Macbeth as characterized by Shakespeare. Coates[2] has enumerated 63 cases of this disease. Fat dystrophy can be differentiated from muscullar dystrophy by the latter's tendency to produce muscular weakness and paralysis of the facio-scapulo-hemeral regions (Duchenne), a striking evidence being the inability of the patient with muscular dystrophy to whistle. In fat dystrophy the disturbance is purely cosmetic. There is apparently nothing to be done in the way of treatment though we tried in one of these boys the injections of Mead-Johnson's emulsified fat, 5 c.c. doses, intramuscularly, and later 20 c.c. in 250 c.c. salt solution intravenously as suggested by Dr. L. Emmett Holt, Jr. We did not find that there was any deposition of subcutaneous fat by these injections or by any sort of dietary. These boys had an insatiable appetite. One of the

2. Coates, Vincent: Idiopathic Lipodystrophy, Brit. Journal of Children's Disease, 21, p. 194, 1924.

boys, now 14 years old, is beginning to improve spontaneously in the filling out of the facies.

In Conclusion

Looking back over the past year's experience in a children's hospital, I have selected features of interest to my associates and me. I hope that the narration of these histories and therapeutic procedures may be of value to you. Allow me to again express my thanks for the honor of the invitation and the kind treatment accorded me at the meeting of the Oklahoma State Medical Association.

Acute Appendicitis*

Horace Reed, M.D.
OKLAHOMA CITY, OKLAHOMA

Dr. Horace Reed: Mr. Chairman and Gentlemen. Dr. Kernodle is to be commended on his idea that we should give annually some time to the consideration of this disease. There are two main reasons why we should keep on talking about appendicitis, a disease which is still taking away many of us. I say "us" for the reason that if you will look in the records of deaths in the Journal of the American Medical Association, you will see that quite a number of doctors are dying from acute appendicitis annually. Then there is another reason why we should keep on talking about it. We are always going to have it with us. By its very nature there is no such thing as the prevention of appendicitis. Two or three years ago I prepared a paper in which I discussed the complications of appendicitis, and stressed the fact that the diseased appendix should be recognized while the process is still limited to the appendix, to the end that the diseased structure could be removed and thus prevent the complications which are usually the cause of death. Inflammation of the appendix, or appendicitis, is nearly always caused by an obstruction of the lumen. As long as the process is limited to the appendix there are no local signs such as pain in the region of the appendix, but the signs are referred to the abdomen as a whole, and are most always described as "indigestion." If we understand the anatomical picture, we may get a better understanding of what takes place.

The appendix is an offshoot of the gastrointestinal tract. It has in it no sensory nerve fibers. When there is trouble in the appendix the symptoms are transmitted through the nerves of the meso-appendix to the epigastrium, or to the abdomen as a whole. Many years ago, before we used spinal anesthesia, we occasionally operated for appendicitis in patients with lung trouble by means of local anesthesia in the line of the incision. Without the use of any anesthetic whatsoever in the appendix it could be picked up, crushed, or even removed without causing any distress to the patient unless traction was made on the meso-appendix. If such traction was made, the patient invariably complained of pain in the epigastrium. We find that this corresponds exactly to what takes place when a patient is seized with acute appendicitis. If the history of every patient with acute appendicitis is thoroughly taken, and if the story rings true to what actually takes place, the first symptom is abdominal distress which is usually described as centering in the epigastric region. This is the sign which is usually misinterpreted and is called "indigestion." That word is a very unfortunate word. It has been used through the years, how long we do not know, to designate an entity which did not exist except in the imagination. Even physicians with this earlier sign are satisfied in thinking that they have just "indigestion." We should get this through our heads that there is no such thing as "indigestion" except as a symptom. There is always a cause, and it is usually outside the stomach. It may have any location, as in the pelvis, the liver,

*Read Before the Surgical Section, Annual Meeting Oklahoma State Medical Association, Muskogee, Okla., May, 1938.

caecum, etc. The first sign of appendicitis is always the same. It is epigastric or abdominal distress. I say distress in contradistinction to what we call pain. The distress of the early signs of appendicitis, when we compare it to other causes of distress in the abdomen that are painful, as for instance, gall bladder or uretral colic, it is so much less in severity. Gall bladder and uretral colic are so painul as to require two or three times the ordinary dose of morphine to give comfort. The same is true of perforating ulcer of the stomach. I have never seen a patient with acute unruptured appendicitis who could not be made comfortable with a single 1/4 grain of morphine. In other words, the pain is not terrible as many seem to think it should be, but there is distress, and a better word still is "bellyache."

Now if doctors will get themselves informed as to the initial symptoms of appendicitis, there would be fewer physicians losing their lives. There would also be fewer patients treated for so-called "indigestion" when first seen by the physician. The m e d i c a l profession should be the guardian of the health and welfare, physically speaking, of the people. If in every physical examination the examiner would, in the absence of an abdominal scar, inform the patient of what he should expect in case he should have an attack of appendicitis, and stress the earliest symptoms, there would be fewer cases of ruptured appendicitis. But unless the physician knows, and knows accurately, what the earliest signs are, he cannot give the proper instructions. Since the days of Murphy who first emphasized the signs of acute appendicitis, we have been guided by four diagnostic points, namely: abdominal pain or distress which is always present; nausea, which is not always present but is in about 75 per cent of cases; toxemia, usually causing slight temperature elevation, and, finally, localization of tenderness in region of the appendix. This last sign should be called in question as to its being necessary to the making of the diagnosis. This is due to the fact that sometimes the appendix is so situated and covered by intestinal loops or omentum,. or other intra-abdominal structures, the products of inflammation which usually precede perforation, or gangrene, do not reach the parietal peritoneum. The omentum and the visceral peritoneum are like the appendix itself, devoid of sensory nerve fibers. In the second place, when there is localized tenderness and rigidity of muscle, either there is spilling of the products of infection outside the appendix sufficient to contact the parietal peritoneum, or there is a c t u a l leakage of infectious material causing actual peritonitis. The sign of localization of tenderness is of considerable value to the surgeon in his approach to the appendix. We must remember that the appendix may be found anywhere in the right side of the abdomen from the subcostal region to the pelvis, and in very rare instances it may even be on the left side, so if the diseased appendix has progressed to that point to where there is localization, it should be looked upon as a guide to the manner of approach rather than as a diagnostic sign of appendicitis. The o t h e r three diagnostic signs mentioned, namely abdominal distress, toxemia and usually nausea, should be sufficient to make a clinical diagnosis. If there is room for doubt, a blood count may be helpful. The first sign in this triad which leads to most errors is that of abdominal distress plus nausea and vomiting. If a patient has partaken of something out of the ordinary, such as a hamburger, following which he has abdominal distress and vomits the hamburger, he is quite convinced, until he is otherwise informed, that it is the hamburger that caused his "indigestion." Even doctors are not immune from such conclusions in their own cases. Let it be stressed that the indigestion which is synonymous w i t h abdominal distress and nausea, is a sign of an inflamed appendix, and it matters not what one has been eating previous to the onset of acute appendicitis, the digestive process in the stomach will be interrupted.

As to treatment we will all agree that the diseased appendix should be removed, certainly when it is acutely diseased. There has been much in recent literature in the last year or two on appendicitis, most of which has been devoted to the technical part of the operation and management. It seems that most surgeons prefer the McBurney incision, first, because it usually is the shortest and most accessible route, and, second, because such an incision will not weaken the supporting structures of the

abdomen. Spinal anesthesia has rendered the operation much easier because, first, it produces relaxation of the muscles, and, second, the operator is not bothered with extrusion of the viscera through the incision while operating. As to generalized peritonitis I have very little to say. I know of no royal road, no sure method to cure generalized peritonitis when it is the result of appendicitis. Since this brief discussion is on appendicitis with a plea for treatment before it ruptures, there is no need to undertake an extended discussion of the complications that arise after inflammation has spread to the peritoneal cavity. I will say this, however, that it is my opinion after the appendix ruptures it becomes a problem which in each case the decision must be made on the basis of all the circumstances.

Dr. M. M. DeArman, Miami: I have read a recent review by Dr. McClency of Rochester on this subject. I think it is well to classify the involvement of the appendix into three groups. First, acute inflammatory without perforation. Second, with perforation and abscess formation. Third, with generalized peritonitis. Each of these three groups is a different proposition and there is a different method of attack.

There is no question in the mind of any surgeon as to the handling of acute, even gangrenous, conditions of the appendix prior to perforation, the method of handling by operation, and the results are the same everywhere, that those patients who are operated within 24 hours practically have a 100 per cent chance of recovery. The one with abscess formation possibly should be operated immediately if there is localization of the appendicitis. Dr. McClency is of the opinion that with perforation and localization of the abscess, operation is much better than the conservative treatment; those with abscess formation without general peritonitis.

As to the method of handling general peritonitis, unfortunately this is where we get our mortality, and unfortunately this condition is hard to visualize and handle. Individualization of each patient requires a vast experience the majority of surgeons have not had the opportunity to have. To say that no patient with general peritonitis following perforation should have immediate operation would not be just to that patient. To evaluate the condition and symptoms that causes one to have an opinion whether this man should have an immediate operation or conservative treatment, certainly tests the ability of the majority of men who do not have a very wide range of experience. I am sorry that I did not get all of Dr. Reed's talk.

In a great many instances the symptoms do not stand out prominently. In a certain per cent there is absence of referred pain. Possibly there is generalized abdominal distress, but a referred pain in the lower right abdomen is absent in quite a majority of patients. They won't all have vomiting. The great majority have nausea, but many do not have vomiting. The blood count is not to be depended upon; it is likely to be deceptive. You possibly have in general peritonitis a lower blood count at times than you have in an acute inflammatory condition. So it requires individualization. That is hard to conceive of except with men who have a great number of cases.

Cavernous Sinus Thrombosis With Case Reports*

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Examination of the records of the hospitals in Oklahoma City shows there has been during the past 15 years 28 cases of cavernous sinus thrombosis recorded as such. There are also about this many more that have been signed out as sinusitis, meningitis and septicemia.

A brief review of the anatomy of this

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region is interesting since it is a hot spot if one contemplates surgery of the sinus. Lying on the lateral wall of the sphenoid it comes in contact with the inner wall of the orbit, the posterior portion of the ethmoid labyrinth, the anterior portion of the pituitary and has the optic nerve crossing it above to form the chiasm. The ophthalmic veins draining the orbits, nose and upper lip flow backward into these sinuses making this area dangerous for carrying emboli backward into the cavernous sinus.

There are some peculiarities of the sinus itself that adds to the hazard of thrombosis; it is trabeculated and is tranversed by the internal carotid artery. The 3rd, 4th and 6th nerves also pass through the sinus on its lateral walls.

It is connected to the sigmoid sinus by the superior and inferior petrosal sinuses and to the opposite cavernous sinus by the circular sinus, this last making bilateral infection a certainty.

Thrombosis results c h i e f l y from two sources; a small infection on the upper lip, nose, cheek or eye lids may result in emboli being carried backward through the ophthalmic veins; or thrombosis may result from nasal sinus infection with secondary osteomyelitis of the face or frontal bone carrying infection backward into the cavernous sinus.

Of the 50 or more cases examined all died but one. One more recovered of the thrombosis and succumbed later to a pneumonia of a different organism. I believe these two cases are worthy of report in detail.

A colored boy, about 15 years of age, came into University Hospital because of swelling of his left eye lids. Two days later, the right eye lids became swollen. There was marked chemosis of the conjunctiva of both eyes and marked proptosis of both eyes.

Fundus examination showed huge engorgement of retinal veins with hemorrhages into the fundus and oedema of the optic nerves. Spinal puncture showed increased pressure and an increase in spinal cell count, globulin, etc., but no bacteria. Repeated blood cultures were negative; white blood counts were only moderately raised and temperature was not high. Patient was not unconscious.

Over a period of three months and many spinal punctures, decompression was done because of the oedema of the optic nerve. He finally recovered, the proptosis and the chemosis subsided and he left the hospital with a marked impairment of vision due to the long standing passive congestion and pressure on the optic nerves. This case was reported in the A.M.A. Journal, by Dr. H. Coulter Todd, as a "Sterile Thrombosis of the Cavernous Sinus with Recovery."

The second case is not so rare a type and offers some hope of recovery of infected cavernous s i n u s thrombosis. A young girl, about 15 years of age, had a sty on the left eye lid which she opened and squeezed afterwards.

The child went to school, having headaches which neither she nor the mother considered important until one morning after the father had gone to work and the child was getting ready for school, she became irrational and the mother allowed her to go to bed. About three hours later, a p h y s i c i a n was called. Examination showed both eyelids swollen, left worse than right and considerable chemosis of the conjunctiva beginning to appear. She was irrational, had temperature about 102° and showed marked engorgement of the retinal veins.

Thinking this was most likely a streptococcic infection on account of the viciousness of the complication, she was sent to the hospital, given prontosyl by hypo, in 10 c.c. doses and typing was made for transfusions. Hot, moist packs were kept on the eyes to protect the corneae. After 48 hours staphylococcus was recovered f r o m the blood cultures and spinal fluid, so prontosyl was discontinued. The spinal cell count gradually rose from 1,000 cells and 98 per cent polys to a high of 50,000 cells and so much clumping it was impossible to accurately count them.

With staphylococcic cavernous s i n u s thrombosis, septecemia and m e n i n g i t i s diagnosed, she was started on Lederle's staphylococcic antitoxin, a new preparation then on the market only about three months. Since we had carte blanche on expenses, we gave her 20 c.c. every four hours, using it intraspinously, intravenously and subcutaneously at $20 per dose.

This amount of antitoxin kept her en-

tirely free of toxic symptoms. Her cerebration cleared until she carried on an intelligent conversation, had no headache that she would admit and the pulse rate dropped from 160 to 110 with a corresponding decrease in temperature in spite of a spinal cell count of 50,000. After about four days of antitoxin, the spinal cell count began dropping and gradually came down from 50,000 to 2,000, with a decrease in percentage of polys. The chemosis of the eyelids and conjunctiva had meantime been gradually going down so that finally after about 10 days of transfusion and antitoxin it had practically disappeared from the eye lids. She became rational, e a t i n g her meals, turning on the radio for her favorite program and could count fingers across the room.

The transfusions had been discontinued when her blood count reached 6,000,000 and hemoglobin was 120. The donors in these cases were given typhoid vaccine intravenously to produce leucocytosis, and the blood then used at the height of the reaction; i.e. nonspecific immunized blood therapy. The cross matching seemed to change at the height of the reaction but we found it did not produce a reaction in the patient.

We also considered putting in a catheter into the lower lumbar region to give continuous drainage. However, since this would produce a current from the choroid plexus backward through the aqua duct 4th ventricle, foramen of Luschha and Magendie and the outside of the cord, it would not drain the cerebral and cerebella cisterns and would therefore not be of any material benefit.

The remarkable feature of the use of staph antitoxin, was that with a proven staph septicemia and meningitis the patient was cheerful and alert and did not look more sick than one with a bad "cold." This proves that it is not the bacteria but their toxins that kill the patients in septicemia and meningitis.

The results are not so spectacular as with diphtheria antitoxin, but after about four days of feeling better, the clinical signs began to improve, the spinal cell count decreased, temperature and pulse rate decreased, cerebration became more a l e r t and the oedema and chemosis around the eyes subsided. This last showing the clot had been recanaliculated and the flow reestablished through the sinus. On about the twelfth day with all clinical evidences of the thrombosis about clear she contracted a lobar pneumonia, with first one and then both sides consolidated. This typed Nos. 2, 3, 4, 5 and 8 pneumococcus and not staphylococcus. Antitoxin was immediately given but the patient died next day, of a pneumonia not of the same type as her thrombosis, so it was not due to embolus in the lung.

It has been only lately that a staph antitoxin has been developed. It had always been supposed that since staph developed an endotoxin, instead of an exotoxin like diphtheria, tetanus and B. Welchi, that an antitoxin could not be developed for it. It has undoubtedly been tried many times before, but has only lately been successful of production.

It has not been so long ago that lateral sinus thrombosis was considered practically beyond surgical help, yet we now open a lateral sinus, take out the clot and pack it, or strip out the jugular vein as readily as we do a mastoid, when the need arises.

Since the cavernous sinus is trabeculated and also transfixed with nerves and the internal carotid artery, it does not lend itself readily to surgery.

I have thought that if in the Clinic I should ever get a case favorable enough it might be worth while to take out the eye, exenterate the orbit, take off the medial orbital wall, slit the cavernous sinus and put in a drain.

Tying the common carotid has been advocated as a means of lessening the movement in the sinus and thus lessening the spread of the clot to the other side.

One other surgical approach has been mentioned; i.e. taking out the middle turbinate, removing the lateral wall of the spenoid sinus and opening the cavernous sinus from its nasal side. This offers complications in that it would be hard to stop bad bleeding and would also be hard to keep a drain in the opened sinus.

Blocking of this sinus has occasionally arisen from a clot extending forward from a thrombosed lateral sinus through the petrosal sinus to the cavernous sinus.

In the last analysis treatment of this condition is the treatment of the attending

meningitis and septicemia. With the coming of sulfanilimide one stands a fair chance of clearing up streptococcic septiceminas and meningitis, and with this staphylococcic antitoxin one has a fair chance with a staphylococcic infection. In addition to these specific medications one should also use nonspecific immunized transfusions, spinal punctures, subcutaneous and intravenous saline, then treat any other complications as they arise.

It is my prediction that the next few years will see medical and surgical treatment of this condition improved until cavernous sinus thrombosis will not offer the hopeless prognosis which it at the present enjoys.

Lateral Sinus Thrombosis*

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This presentation deals with the general points of diagnosis, treatment, and complications, of thrombophlebitis of the sigmoid sinus, based upon three cases which have recently been under my observation.

In the general consideration of the symptomatology of thrombosis of the lateral sinus, there are four distinct temperature charts as outlined by Dr. Tobey[1]. My three cases may be placed in two of these groups:

Type A. The accepted picture of acute sepsis with very sudden remissions to normal, or even sub-normal. This may occur several times within a few hours, or but once or twice during the 24.

Type B. The temperature at no time shows an elevation of more than one or two degrees, but a persistent irregularity, with a usual evening rise, although it may vary several times during the 24 hours.

Type C. An elevation of two or three degrees, which does not return to normal but shows slight remissions and elevations from 100° as a minimum. This type nearly always recurs after remaining at normal for a few days.

Type D. A normal temperature. At the time of mastoid operation, one may find a definite sinus thrombosis, or occasionally a broken down sinus wall and fistula, the patient having at no time shown a fever. Dr. Tobey states in a series of 73 cases, this occurred 11 times, and the sinus wall was completely necrosed in three of these.

Chills are very common and in my experience are present in about 75 per cent of the cases. They were present in all three of the cases at hand.

Care must be used in the differentiation of malarial chills and the chills and fever of a thrombophlebitis of the sigmoid sinus.

The blood culture is usually positive and should be taken just after the chill, as it is much more apt to be positive at that time. Usually after the first chill a positive culture will be obtained. Serial blood studies are often used to demonstrate progressive loss of hemoglobin as we are usually dealing with a hemolytic type of infection. Thus, the destruction of hemoglobin even in the absence of a positive blood culture allows one to proceed with the operation without the loss of valuable time waiting for a positive blood culture.

Changes in the fundi were noted in none of my three cases preoperatively, although in one case marked fundus change was noted post-operatively. Most authorities note a change in approximately 25 per cent of the cases. The changes noted are fullness of the retinal veins, blurring of the disc margins and the entire disc, even to a marked papillodema.

Spinal puncture with the examination of the fluid and pressure variations by compression of the internal jugular vein is very important. A spinal subarachmoid block, an important and early sign in spinal cord

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tumor, will cause an absence of the rise in pressure on compression of the jugular vein and it has been shown that the presence of a tumor in the cerebellar fossa may produce this same result. However, in thrombosis of the lateral sinus we are concerned chiefly with the comparison of the effects on each vein separately.

The incidence of sinus thrombosis in mastoiditis varies. Lillie[2] reports 3.8 per cent in 500 mastoidectomies. In a series of 1,257 mastoidectomies, Greenfield[3] reports 1.7 per cent of cases developing sinus thrombosis.

The mortality rate is usually below 40 per cent; Coates, Ersner and Persky[4] report 35.7 per cent. Heine[5] reported a mortality rate of 57 per cent in 1913.

It is interesting to note, especially further north, that different winters produce more sinus thrombosis cases. Some winters, the incidence of lateral sinus thrombosis will be high and the following winter the incidence is low. This runs in line, also, with the number of patients who develop mastoiditis following acute middle ear infections.

CASE 1

J. R., age 10, schoolgirl in good general condition, complained of a sore throat one week previous to admission. The last three days has had a fever, chills, restless and yesterday was, apparently, delirious, vomiting severely. Ears began discharging yesterday and now complaining of double vision.

Physical examination—essentially negative, except marked discharge left ear canal and marked tenderness over left mastoid process. Throat moderately reddened with large and cryptic faucial tonsils.

X-ray—Increased density with destruction of cellular markings in region of antrum of left mastoid.

Temperature—101°; pulse 100; resp. 25; urine, negative; blood RBC 4,200,000; WBC 19,400; 86 per cent polymorphoneuclear leukocytes.

Simple mastoidectomy left performed—large cellular type mastoid with pus under pressure. Small sinus exposure posterior to knee. Culture showed long chain streptococci. Patient got along nicely until the seventh postoperative day and her temperature went to 101.8° after about four days of normal temperature, also diplopia developed, then the temperature gradually rose with remissions to 104.8° with chills of marked severity and diplopia disappeared. Spinal puncture and after compression of both jugular veins the difference in increase between the right and the left was three mm. of mercury. I waited until the eleventh postoperative day, waiting for positive blood culture, which never came, and at that time reopened the mastoid cavity and exposed the knee of the sinus. Its wall was necrotic and its lumen filled with a large septic thrombus. The thrombus was removed with gentle suction and free bleeding obtained and the sinus was blocked. The internal jugular vein was then tied.

Three transfusions were given at two day intervals. The temperature practically subsided on the sixth postoperative day. Partial paralysis of the left sixth nerve developed on the fifteenth day following the ligation of the jugular vein and blocking of the sinus. This gradually cleared up after about eight months postoperative and the wearing of corrective lenses.

This case falls into Dr. Tobey's group A, as far as the febrile septic course ran.

I wish to point out the important and common complication of paralysis of the external rectus muscle on the side of the lesion, which may have been a result of a petrositis which cleared up by itself, or an increased pressure phenomena which I will discuss later.

CASE 2

P. D., age 18, schoolgirl in good general condition. This patient became ill two weeks ago, with a sore throat and immediately developed earache and a discharge from the left ear. Three days ago she developed swelling and tenderness over the left mastoid area.

Physical examination—essentially negative, marked discharge purulent from left ear canal with moderate swelling and marked tenderness over left mastoid process.

X-ray—Shows marked increase density in left mastoid process with breaking down of cellular structure.

Temperature 102°, pulse 100, resp. 25; urine, negative; WBC 20,400; 92 per cent polymorphoneuclear leukocytes.

Simple mastoidectomy was done and a markedly suppurative process found with a large cellular mastoid cavity. No sinus or dural exposure.

The postoperative course which followed was not smooth; every day the temperature would exceed 101°, and some days it would go to 102°. There were no chills and generally the patient felt good, which is often characteristic of a septicemia of this nature. Then on the eleventh postoperative day the temperature went to 106° axillary following a severe chill. Blood culture showed a short chain streptococci of the hemolytic type. The diagnosis of lateral sinus thrombosis was made and permission for operation was not granted until five days later. During this time the temperature remained nearly constantly around 106° axillary with one remission daily.

On operation the sinus was exposed and it appeared grayish white below the knee; it was incised and a thrombus was disclosed and removed by suction and the sinus blocked. The internal jugular was then ligated. Three blood transfusions were given before operation and three afterward. The patient died on her sixth postoperative day.

This case had an overwhelming septicemia which was uncontrollable with the methods used. If the operation had been performed when the diagnosis was made, it might have made a great deal of difference, or if we had been using sulphanilamide at that time the patient might have never developed the thrombophlebitis and thrombus. This was a very fulminating case, and characteristic of a severe sinus thrombosis.

Case 3

Mrs. F. S., age 30, housewife. The patient had a child three weeks previous to admission and had been having headaches with intermittent chills and fever. Her right ear ached and had discharged a small amount. Her home doctor felt she had puerperal sepsis.

Physical exhmination—revealed nothing significant. Right ear canal contains minute amount of serum — no performation seen. Temperature 100°; pulse 100, resp. 20. Urine — essentially negative; WBC—19,500; 91 per cent polymorphoneuclear leukocytes.

Mastoid X-rays — slight clouding and suggestive loss of detail right mastoid. On the third day after admittance to the hospital a sudden temperature rise to 103°, following a moderate severe chill, occurred, and sudden drop of temperature and severe right sided headache. The following day the right ear drum was opened and moderate discharge resulted. The following day the headache was improved and she remained afebrile. The second day temperature reoccurred with severe right temporal headache. Blood culture at the time of the myringotomy showed long chain streptococcus of the hemolytic type. Because the headache continued, slight tenderness over mastoid process, moderate discharge from the ear and questionable X-ray evidence, I felt that mastoidectomy was indicated. On her sixth hospital day a mastoidectomy was done and it showed a large cellular mastoid cavity with moderate granulations and very little pus. On curretting deeply at the sinus dural angle and on exposing the dura, a large amount of pus revealed an epi-dural abscess. This was adequately drained and sinus exposed, showing an abnormal wall and a thrombus could be felt.

Two days later, as we felt we had better stop the first operation because of the patient's condition, we reopened the mastoid wound and uncovered the sinus to the bulb and posteriorly for several centimeters. The sinus was tightly thrombosed and we were unable to obtain free bleeding. Because of the recurring temperature, the jugular vein was ligated, and the thrombus did not extend to the neck. The patient recovered remarkably, being practically afebrile and symptom free until the tenth day and a paralysis of the right external rectus was noted, on the eighteenth day beginning papillodema developed and progressively became worse and by the twenty-first day she had full choked discs and right temporal headaches but no fever.

She was referred to a neuro-surgeon, Dr. Keegan, who searched for an abscess through the mastoid wound, he found nothing. Then a spinal puncture and the pressure 30 mm. with no response on right, but a fair on the left with jugular compression. He allowed the fluid to drain off very slowly to reduce the pressure to 15 mm. The patient obtained considerable

relief for about 12 hours. This was repeated with the same result, but produced some sub-occipital pain, which caused concern as to the danger of further spinal puncture.

At this time it was decided to venture a puncture into cerebellum as had been done in the temporal lobe to rule out cerebellar abscess. Nothing was found. A trephine was then performed in the left frontal region and the insertion of a continuous drainage needle into the anterior horn of the left anterior ventricle. The ventricle was not dilated, but the needle was left in place, allowing the escape of fluid for two days. The flow of fluid stopped and the needle was removed. The patient was markedly improved as to headaches and sixth nerve paralysis. She continued to run a low grade temperature and another positive blood culture was found. She was given another transfusion. I neglected to state that three transfusions were given at the time and shortly following the early operations. Her condition steadily improved and about 14 months after her illness she seemed in perfect physical condition.

I place this case in Type C of Dr. Tobey's classification.

In summing up the three cases, we have two with sixth nerve paralysis, one with overwhelming septicemia, and one with epi-dural abscess.

In explanation of the sixth nerve paralysis, this is thought to be due to localized infection at the petrosal tip or pressure. This nerve, as you know, is a long slender filament which crosses the basal subarachnoid space and is easily subject to inflammatory or pressure disturbances. Intracranial pressure commonly causes sixth nerve weakness by pressing the brain tightly downwards over the free border of the tentorium where the sixth nerve crosses to enter the cavernous sinus wall. Cushing has shown that occasionally the sixth nerve lies under the inferior cerebellar artery and sometimes over. If it lies under the artery, increased pressure has more effect.

The increased intra-cranial pressure is caused by the inflammatory process and also the venous congestion following the ligation of the internal jugular vein. There is considerable difference in size and communication of the two transverse sinuses at the torcular herophili and in some cases practically all of the blood from the superior sagittal sinus goes down one side. This would account for the absence of venous congestion in some cases and marked in others.

The epi-dural abscess was merely an extension of the infection through the sinus wall.

Dr. Hartman[6] has shown with a series of two cases that sulphanilamide given previous to operation for a period of three to five days, seems to mitigate the gravity of the outlook, and minimizes the chance of continued progressive septicemia. In case number two, had sulphanilamide been available during the time we were waiting for operation, the streptococcus might not have gained such a foothold.

Summary

1. Sinus thrombosis following middle ear and mastoid infections carries a mortality of about 33 to 35 per cent.

2. It is recognized by recurrence of chills and fever following middle ear infections; the temperature curve falling in one of our groups as discussed.

3. Diagnosis is further established by a positive blood culture or by rapid fall in hemoglobin, characteristic of hemolytic streptococcus infections.

4. Neurologic signs consist chiefly in sixth nerve palsy, as a rule the same side.

5. Spinal puncture shows internal jugular block on same side, partial or complete.

6. Treatment consists: Medically of sulphanilamide (this has not been used personally to date) and supportive treatment. Surgical treatment consists of open operation, removal of septic thrombus and ligation or resection of the corresponding internal jugular vein.

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DR. L. S. WILLOUR.....Editor-in-Chief
McAlester, Oklahoma

DR. T. H. McCARLEY.....Associate Editor
McAlester, Oklahoma

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in The Journal the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the Editor, McAlester Clinic, McAlester, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes of addresses, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

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EDITORIAL

IMPORTANT NOTICE

The dues of the Oklahoma State Medical Association for 1939 will be twelve dollars ($12.00) in compliance with the action of the House of Delegates at the meeting held in Muskogee.

The following is an abstract from the minutes of the House of Delegates, May 10, 1938:

> **"On motion of Dr. Ned R. Smith, seconded by Dr. J. S. Fulton, unanimously carrying, the annual dues will be twelve dollars ($12.00), beginning January 1, 1939."**

Secretaries will please take notice when they collect the annual dues so that there will be no necessity to return checks for insufficient remittance.

WASHINGTON CONFERENCE

Immediately following a called meeting of the House of Delegates of the American Medical Association the President of the United States and the chairman of the Interdepartmental Committee to Coordinate Health and Welfare Activities were advised by a Committee (appointed by the Speaker of the House) to confer with governmental agencies. Both the President and Miss Josephine Roche, Chairman, replied very graciously to the communications. They advised they would be glad to have an early discussion of the matter with the Committee, and this meeting was scheduled to be held in Washington, October 31st.

This Committee will go to Washington with much valuable information as to the need of expansion of medical care. However, they will have no information from Oklahoma as the Survey which was requested by the American Medical Association has not been made in this State, although the material has been in the hands of the committee on Economics since our meeting last May.

This Interdepartmental Committee was in possession of so much mis-information that its conclusions, at their former meeting predicated on this mis-information, were far from being accurate. It is these inaccurate conclusions which have reached the lay press and been the basis of much discussion by the laity.

Organized medicine will be ably represented at this meeting as the Committee is composed of Dr. Irvin Abel, Chairman; Dr. Walter F. Donaldson, Dr. Walter E. Vest, Dr. Henry A. Luce, Dr. Fred W. Rankin, Dr. Frederic E. Sondern, Dr. E. H. Cary, and ex officio Dr. Rock Sleyster, and Dr. Olin West.

This Committee, meeting with an open minded delegation representing the Government, will be able to develop a plan under the direction of Organized Medicine, that will accomplish much toward the solution of the existing problem.

ANNUAL MEETING MAY 1, 2, 3

The Committee on Arrangements has decided on the dates of May 1, 2, 3, 1939, for the Annual Meeting. Headquarters will be Skirvin Hotel, Oklahoma City.

Editorial Notes—Personal and General

DR. WILLIAM H. KAEISER, McAlester, has been appointed County Health Superintendent of Pittsburg County.

DR. PATRICK NAGLE announces the removal of his offices from the Medical Arts Building, Oklahoma City, and the opening of a Surgical Facility, at 1021 North Lee, for the practice of general surgery, plastic surgery and industrial surgery.

DR. and MRS. JOHNNY BLUE, Guymon, spent two weeks in Colorado, vacationing, in October.

DR. REED WOLFE, Hugo, has taken over the offices of the late Dr. W. N. John, where he will continue the practice of medicine.

DR. and MRS. O. ALTON WATSON, DR. and MRS. WM. H. BONHAM, DR. and MRS. L. CHESTER McHENRY, and DR. JOSEPH C. MacDONALD, Oklahoma City, spent ten days in Washington and New York, in October, attending the national convention of Ophthalmology and Otolaryngology in Washington, and the American College of Surgeons meetings in New York.

THE SOUTHWEST CLINICAL CONFERENCE, Kansas City, was attended by the following Oklahoma doctors: L. E. Emanuel, Chickasha; Parkey H. Anderson, Anadarko; Glenn J. Collins, McAlester.

DR. and MRS. KENNETH J. WILSON, Oklahoma City, spent two weeks in New York City and Baltimore, in October. They visited their son, Dr. Chas. Hugh Wilson, who is a resident surgeon at the New Rochelle Hospital, New Rochelle, N. Y. Dr. Wilson also attended the sessions of the American Birth Control League in New York, and clinics at the Johns Hopkins Hospital, Baltimore.

DR. ELTON LEHEW, Pawnee, announces the removal of his office from the First National Bank Building to the LeHew Building.

DR. E. B. THOMASSON, Duncan, is reported ill at his home.

DR. A. C. ABERNETHY, Altus, has accepted an assignment with the United States navy as head of the Urology department of the Canacao Hospital, Philippine Islands, and sailed October 17, from Norfolk, Va.

DR. J. R. HINSHAW, Major Med.-Res., Butler, Oklahoma, spent the first two weeks of October, 3-15, attending the Medical Military Conference, Mayo Clinic, Rochester Minnesota, where some 85 physicians and surgeons of both army and navy were in conference on pertinent Medical Military problems.

DR. GEORGE A. KILPATRICK, McAlester, attended the meeting of the American College of Surgeons which met in New York City, in October.

DR. ALLAN R. RUSSELL, McAlester, attended the Sectional Meeting of the American Urological Association which met in Dallas, October 19-21.

DR. GEORGE H. KIMBALL, Oklahoma City, has returned from New York City where he attended the meeting of the American College of Surgeons in October.

DR. J. F. PARK, McAlester, attended the meeting of the International College of Surgeons at New York City; he also attended Clinics at Johns Hopkins Hospital, at Baltimore.

News of the County Medical Societies

CARTER County Medical Society met in Ardmore, Monday, October 17, with the following program: "General Consideration of Fractures," Dr. L. S. Willour, McAlester; "Electrocardiograph as an Aid in Diagnosis," Dr. Glenn J. Collins, McAlester; "Psychiatry in Medicine," Dr. Lyman C. Veazey, Ardmore.

GRADY, STEPHENS and CADDO County Medical Societies met at Anadarko, September 29th. Two Oklahoma County doctors were guest speakers for the evening, Dr. Henry H. Turner speaking on "Practical Endocrinology" and Dr. W. M. Taylor on "Acute Respiratory Diseases of Childhood." This program followed a banquet at which 19 members were present. These three societies will meet in Chickasha in November.

LINCOLN County Medical Society met October 5th with Dr. C. H. Bailey, Stroud, as host. Mrs. Bailey was hostess to the wives of those doctors attending. DR. JOHN F. BURTON, Oklahoma City, was the principal speaker.

OBITUARIES

LEALON EDWARD LAMB

Lealon Edward Lamb was born at Paragould, Arkansas, on March 23rd, 1901, and died at Kansas City, Missouri, on October 7, 1938, at the age of 37 years, 6 months and 14 days.

He came to Clinton with his parents in January, 1908, and resided here from that time until his death. He received his elementary education in the public schools of Clinton, and was graduated from the class of 1920. He continued his education at the University of Oklahoma and Medical Department of Washington & Lee, and received his B.S. degree from the University of Oklahoma in the year 1926 and his M.D. degree from the University of Oklahoma Medical school in 1928. After graduation from the University of Oklahoma he entered the Kansas City General Hospital and served one year as an intern, and during his intership at the Kansas City General Hospital he was president of the interns. Upon completion of his internship in 1929, he returned to practice his profession in Clinton, and associated himself with his father, Dr. Ellis Lamb, and in 1936 Dr. Ross Deputy joined the firm and the firm continued from that time to the date of his death as: Drs. Lamb, Lamb & Deputy.

Dr. Lamb was married to Miss Margaret Waddell, of Yukon, Oklahoma, on September 25, 1933. They established their home at 512 South 9th street in Clinton where they have since lived.

He was a member of the County, State and National Medical Societies, Fellow of A.M.A., was past president of the Custer County Society and was president of the Western Oklahoma Medical Society at the time of his death. He was a member of the Masonic Lodge and a member and past president of the Kiwanis Club of Clinton. A member of the University of Oklahoma Chapter of Beta Theta Pi fraternity and a member of Phi Bate medical fraternity.

He is survived by his widow; his father and mother, Dr. and Mrs. Ellis Lamb, of Clinton; one sister, Mrs. R. H. Dunn of Clinton, and one nephew, Bobby Ellis Dunn of Clinton, and other relatives.

DEATH NOTICES

DR. J. H. COLBY, Purcell, October 12, 1938.
DR. W. L. KENDALL, Enid, October 12, 1938.
DR. A. F. PADBERG, Canton, October 12, 1938.
DR. W. L. KNIGHT, Wewoka, October 18, 1938.

Books Received and Reviewed

OUTLINE OF ROENTGEN DIAGNOSIS, An Orientation in the Basic Principles of Diagnosis By the Roentgen Method. Leo G. Rigler, B.S., M.B., M.D., Professor of Radiology, University of Minnesota, Minneapolis, Minnesota. Atlas Edition, 254 Illustrations show in 227 Figures, presented in Drawings and Reproductions of Roentgenograms. Figures 6 to 51 and 55 to 72 are drawings in an original technic by Jean E. Hirsch. J. B. Lippincott Co., Philadelphia.

This is a compact, fairly comprehensive manual or a synopsis on Roentgen diagnosis, written in a clear diadactic style by a well recognized teacher and radiologist. This book is really the revised and expanded lectures that Dr. Rigler presents to his undergraduates and post graduate students.

The subjects are presented in outline style, each paragraph is packed with facts. Discussion on physics, details of technique, and detail discussion of the rarer lesions are omitted in an attempt to make the manual practical. The photographs and sketches that comprise the atlas are well selected and adequately labeled.

This manual is recommended to both students and physicians who desire a well planned outline study of roentgen diagnosis.

THE PRACTICE OF MEDICINE, by Jonathan Campbell Meakins, M.D., LL.D., Professor of Medicine and Director of the Department of Medicine, McGill University; Physician-in-Chief, Royal Victoria Hospital, Montreal; Formerly Professor of Therapeutics and Clinical Medicine, University of Edinburgh. Fellow of the Royal Society of Edinburgh; Fellow of the Royal Society of Canada; Fellow of the Royal College of Physicians, London; Fellow of the Royal College of Physicians, Edinburgh; Honorary Fellow of the Royal College of Surgeons, Edinburgh; Fellow of the Royal College of Physicians, Canada; Fellow of the American College of Physicians. Second Edition. With 521 illustrations including 43 in color. The C. V. Mosby Company, St. Louis, 1938. (He recommends himself highly!!)

This second edition of a work on internal medicine has been practically universally accepted. There have been many additions and amplifications including local and constitutional conditions, blood dyscrasias, protamine zinc insulin, vascular renal failure, uremic state, sulphanilamide therapy, et cetera. The regional classification of material presented makes it very convenient for ready references. There are nearly 50 color plates that are beautifully illustrated. The color makes possible accurate differentiation of certain pathological processes. As each subject is thoroughly complete in this review it would be impracticable to go into the various chapters except to say that in each instance an entire description of the subject can be expected.

ESSENTIALS OF OBSTETRICAL AND GYNECOLOGICAL PATHOLOGY WITH CLINICAL CORRELATION, by Marion Douglass, M.D., F.A.C.S. Assistant Professor of Gynecology Western Reserve University, and Robert L. Faulkner, M.D., Senior Clinical Instructor in Gynecology Western Reserve University. 148 Illustrations. The C. V. Mosby Company, St. Louis, 1938.

This work by Douglass and Faulkner is essentially for the obstetrician and gynecologist. As applied to these branches this work is covered in detail and elaborately illustrated. There appears in this small volume 108 illustrations, micro-photographs, sketches and plates, thereby in the most complete way, illustrating practically all of the printed material. Histological pathology of the organs of reproduction is elaborately covered and will be found of great value to the student and specialist in these branches.

HUMAN PATHOLOGY, A Textbook, by Howard T. Karsner, M.D., Professor of Pathology, Western Reserve University, Cleveland, Ohio, with an Introduction by Simon Flexner, M.D. Eighteen illustrations in color and 443 black and white. Fifth Edition, Revised. J. B. Lippincott Company, Philadelphia.

Dr. Karsner's book on Human Pathology has been accepted for many years as the standard text and we are now presented with the fifth edition in which you will find retained all of the worthwhile material from the former editions and the result of recent rapid advance in biological and medical research. The work covers the fields of general pathology, pathological or morbid anatomy, pathological histology, functional or pathological physiology, and the general subjects of bacteriology and immunology. It contains discussion of debated and intricate subjects serving to give the reader definite understanding of points at issue. The book is divided into two parts, one General Pathology and two Systemic Pathology, and the whole material is divided into 22 chapters, making a complete text for the student as well as the general practitioner.

MEDICAL WRITING, The Technic and The Art, By Morris Fishbein, M.D., Editor, The Journal of the American Medical Association, Chicago. With the assistance of Jewel F. Whelan, Assistant to the Editor.

The work by Dr. Morris Fishbein, who has probably had more experience with medical writing and the editing of scientific papers written by other physicians, might well be in the hands of any physician who attempts writing for publication.

The editors of all medical journals would be glad if the authors could familiarize themselves with the proper way of preparing their material and it would also be well for the editors to familiarize themselves with this book. The art of medical writing is thoroughly discussed as is the preparation of manuscript, charts, tables, illustrations, capitalization, abbreviations, style of writing, et cetera.

If you would be a better writer familiarize yourself with this publication by the American Medical Association Press.

A HISTORICAL CHRONOLOGY OF TUBERCULOSIS, by Richard M. Burke, M.D., State Veterans Hospital, Sulphur, Oklahoma.

This small book will be of interest to those who may give of their time to the study and treatment of tuberculosis. It is very interesting reading to the general practitioner as the development of the recognition and treatment of this disease is chronologically described and the progress in both treatment and prevention is shown in an orderly manner.

This being the work of an Oklahoma author should particularly appeal to the doctors of this state.

UROLOGY, By Daniel N. Eisendrath, M.D., Consulting Urologist to the American Hospital, Paris, France; Formerly Attending Urologist, Michael Reese and Cook County Hospitals; Assistant Professor of Surgery (Genito-Urinary) Rush Medical College of the University of Chicago. And Harry C. Rolnick, M.D., Attending Urologist, Michael Reese, Mt. Sini, and Cook County Hospitals, Chicago; Formerly Clinical Professor of Urology, Loyola University Medical School. A total of 750 black and white illustrations and 12 in color. Fourth Edition, Entirely Revised and Reset. J. B. Lippincott Co., Philadelphia, 1938.

This is the fourth edition of a well known book

on Urology. This edition having been revised, making it more complete in every way. It deals with every phase of urology, beginning with embryology and taking up every phase, being especially complete in the treatise of pathology, symptoms, diagnosis and treatment of urological conditions.

It is well arranged in that it deals with the various phases and anatomical sections of the genito-urinary tract separately and completely which greatly clarifies the reading as well as the information.

It includes practically all of the latest information on diagnosis and treatment of urological conditions. It takes up many of the medical aspects of urology not included in other books on urology.

This is one of the better books on urology and would be very instructive to the medical man in any type of practice but especially so to the urologist.

WORKBOOK IN ELEMENTARY DIAGNOSIS FOR TEACHING CLINICAL HISTORY RECORDING AND PHYSICAL DIAGNOSIS, by Logan Clendening, Professor of Clinical Medicine, University of Kansas. Illustrated. The C. V. Mosby Company, St. Louis, 1938.

This book is an expanded arrangement of "The Laboratory Notebook Method in Teaching Physical Diagnosis and Clinical History Recording" published in 1934. In it are instructions in history taking and physical examinations together with specific outline for the purpose of recording these findings.

There are brief explicit instructions for the method of doing inspection, palpation, auscultation manipulation, et cetera, with many illustrated plates for demonstration. It also gives instruction and demonstration in examination of excretions and secretions, et cetera.

Apparently the purpose of this book is to teach not only the student but also men in clinical practice a routine of doing history taking and physical examination and making record of same. It should be very beneficial to students who are beginning their work in elementary diagnosis.

CANCER, WITH SPECIAL REFERENCE TO CANCER OF THE BREAST, by R. J. Behan, M.D., Dr. Med. (Berlin), F.A.C.S., Co-founder and Formerly Director of the Cancer Department of the Pittsburgh Skin and Cancer Foundation, Pittsburgh, Pa. Illustrated. The C. V. Mosby Company, St. Louis, 1938.

Cancer of the breast would be the more appropriate title for this book, as Dr. Behan intimates in his preface. This presentation of breast tumors is most thorough and complete. The author has abstracted the world literature on this subject and compiled the facts and plausible theories about etiology, physiology, and diagnosis of breast tumors into this book. One-third of the book is devoted to treatment by surgery, irradiation, organ-therapy and general measures. Several chapters are devoted to a general discussion of X-ray and radium in cancer therapy. Malignancy, other than breast tumors, is discussed in general terms in scattered paragraphs in various chapters on breast tumors.

The innumerable references, quotations and abstracts make this a valuable reference book on cancer of the breast. The reading is necessarily slow and interrupted because of the style and the strong desire of the author for completeness.

This book is recommended to physicians who desire detailed reading on breast tumors and a general discussion on some cancer principles or theories to discuss.

Important Notice on Editorial Page

The School-Child's Breakfast

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of 12 hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pablum, Mead's Cereal cooked and dried. Six times richer than fluid milk in calcium, ten times higher than spinach in iron, and abundant in vitamins B-1 and G, Pablum furnishes protective factors especially needed by the school-child. The ease with which Pablum can be prepared enlists the mother's co-operation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature. Its nutritional value is attested in studies by Crimm et al who found that tuberculous children receiving supplements of Pablum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina.

Mead Johnson & Company, Evansville, Indiana, will supply reprints on request of physicians.

Electrolysis Controlling Factor In Use of Metals In Treating Fractures

Charles S. Venable and Walter G. Stuck, San Antonio, Texas (Journal A.M.A., October 8, 1938), point out that in order to avoid corrosion of the metals used in the direct fixation of fractures electrolysis must be eliminated, because electrolysis precedes corrosion. The physician's interest is in some metal that will be passive (electrically neutral) in the fluids of the human body. In their studies of electrolysis the authors deliberately set out to create batteries in the bones of living animals by using screws of mixed metals of different potentials which were not coupled. At necropsy biochemical examinations of the tissues about the screws revealed that ions of one metal had migrated to the neighborhood of another metal in accordance with the law of electromotive force of metals. This probed the presence of the effects of electrolysis. They then tried a number of the so-called rustless and noncorrosive steels in combination with baser metals and in each instance found changes in tissue, necrosis of bone and other electrolytic effects. They found, however, that there were no such effects when one alloy, vitallium, made of cobalt, chromium and molybdenum, was used. Their experiments were repeated several times to check and recheck the apparent fact that this singular alloy seemed consistently to remain inert. With the inherent characteristic of constant passivity of this strange alloy, vitallium, shown in all their experiments, with or without couple, in physiologic solution of sodium chloride, in blood serum and in vivo, they naturally turned to its application in human osteosynthesis. At this time they know of no other metal or alloy except vitallium which is so completely electrically neutral and sufficiently strong to meet the needs of fracture fixation but they believe that, with the recognition of electrolysis as the controlling factor, metallurgists may develop others. Fifty-seven cases, including the authors' and those of five other surgeons, are listed in which vitallium appliances were retained for three months or more. End results as to healing of the fracture were analyzed and the tolerance of this metal by healing bone was observed. There has been neither overstimulation of bone growth, with excessive callus, nor demineralization of bone at the fracture sites or about the screws or nails inserted in the bone. The use of vitallium or any equally inert nonelectrolytic alloy in the fixation of old ununited or malunited fractures or even fresh fractures opens a new approach to this problem.

ABSTRACTS : REVIEWS : COMMENTS *and* CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

Five Hundred Thyroidectomies, Some Practical Reflections (Cinq Cents Thyroidectomies, Quelques Reflexions d'ordre Pratique). R. E. Valin, Ottawa, Canada; L'Union Medicale du Canada; October, 1938; Volume 67, No. 10, page 1070.

Reporting 500 thyroidectomies during the last 10 years, the author directs attention to the prevalence of goiter in the Ottawa Valley which he believes is largely due to the drinking of water of low iodine content, most of the drinking water coming from a range of mountains north of the valley.

With the exception of goiter of adolescence, it appears that surgical operations were done for practically all types of disease of the thyroid gland. The reason given is the belief that goiter, of whatever type, with the exception of adolescent goiter, is, potentially, a goiter that can be relieved best by surgical operation. In this connection, there is a reference to the well-known fact that an apparently quiescent goiter may become dangerously and suddenly active after unusual physical or mental stress and strain. Attention is directed to the fact, too, that, under such circumstances, a quiescent goiter may become very active and dangerous in the advanced period of life. Again, one must consider the danger of malignancy in apparent goiter without any subjective symptoms, such change making the surgical removal of the goiter justifiable.

There is a reference to the erroneous belief that cysts of the thyroid gland are without danger, and in that conenction the reader is very pertinently reminded that all cysts of the thyroid gland originate from fetal adenomas with which practically all malignancies of the thyroid are associated.

An interesting table of statistics touching the 500 thyroidectomies reported is presented as follows:

Hyperplastic goiters of the Basedow type	151
Toxic adenomas	111
Non-toxic adenomas, including cystic adenomas and colloid adenomas	207
Malignant tumors	6
Acute thyroiditis	3
Thyroiditis with suppuration	2
Thyro-cardiac goiters	8
Supernumerary thyroids	2
Intra-thoracic goiters(Goitres plongants)	12
Preliminary ligation of poles	2
Mortality	2
Recurrencies	6
Myxoedema	0
Tetany	0
Traumatism of the recurrent laryngeal nerves	2

The belief is expressed that the basal metabolic rate is of great importance. In the group of hyperplastic goiters of the Basedow type there was a B.M.R. of from plus 25 to plus 95, and it was found that generally the B.M.R. is in proportion to the severity of the symptoms. However, this was not always true, because patients were seen who presented a visible enlargement of the thyroid, but without subjective symptoms. And a number of those patients showed a relatively high B.M.R. Such patients should be properly prepared for surgical operation just as if they had definite clinical symptoms, and when they are not so prepared the results may not be good.

There is another group of patients in which there is no visible enlargement of the thyroid, but who have subjective symptoms indicative of thyroid disease. In such cases the B.M.R. is of great importance, but it must not be forgotten that the B.M.R. is not the only important factor, the rapidity of the pulse being still more important. It is believed that a rapid pulse and an elevated B.M.R. are parallel conditions in the case of a patient suffering of hyperthyroidism.

In the series reported there were subtotal thyroidectomies, bilateral, in all, with the exception of two, and all in a single seance. In the two exceptions there were preliminary ligations of the superior poles. With the modern method of preparation, including particularly the administration of Lugol's solution, it is rarely necessary to resort to surgical operations in series. If the operations are to be divided into stages, it is the opinion of the author that after a unilateral thyroidectomy there should be an interval of six weeks before performing a thyroidectomy on the opposite side.

It is advised that in all cases of toxic adenoma of the thyroid there should be a subtotal thyroidectomy, and not the simple removal of the adenoma, because in such a situation there frequently exists small, invisible adenomas, that are toxic. Recurrencies in such cases are usually attributable to defective technique of the operator.

The author does not practice the intracapsular enucleation, but does a complete extracapsular dissection. The extracapsular procedure is more radical, and the concomitant hemorrhage is less and very much easier to control. There is less shock, and at all stages of the operation one is able to observe the anatomical relation of the structures of the neck.

Attention is directed to the symptoms of intrathoracic goiter, the most frequent being a sensation of smothering during sleep, or in a change of posture; an incapacity to stoop, like the attitude in lacing the shoes; a chronic cough; dyspnoea during effort; respiratory spasm simulating acute attacks of asthma. Frequently there is no ocular evidence of goiter, but an X-ray examination of the contiguous chest will reveal the shadow indicating an intra-thoracic enlarged thyroid.

The two fatalities following operation were associated with symptoms of acute hyperthyroidism. One of the patients died on the second day and the other on the fourth day. Notwithstanding the extreme low mortality (two out of 500 patients), the author remarks that there are symptoms which ought to restrain the surgeon from doing an operation (Il y a des indices qui doivent determiner chez les patients tres intoxiques l'opportunite d'une intervention).

The B.M.R. is not regarded as the sole index of the ability of the patient to undergo an operation. Of even more importance is the age of the patient, the patient who has had thyroid disease for many

years usually having an hypertrophied heart in poor condition. The pulse is of great importance, the patient whose pulse does not become slower under appropriate treatment, including iodine and rest, usually being a very poor risk patient. It is believed that a persistent tachycardia, independent of exterior emotive causes, is a very bad sign, and is an index of a tumultuous and difficult convalescence. The duration of hyperthyroidism must be considered with great care in connection with the risk, because the longer the hyperthyroidism has existed the more will cardiac reserve be lost.

The psychological attitude of the patient is of extreme importance in connection with prognosis, and it is not wise to undertake a surgical operation when there is great psychological distress. This is particularly true when the patient has had iodine for a long time, because then it is not possible to secure the good results that usually come after the relatively short period of administration of iodine, and in such a situation an operation should be approached with great care.

Speaking again of recurrencies, the author expresses himself as believing that a surgical operation done in the proper way and under proper conditions is a cure for hyperthyroidism, but one must be careful to make a distinction between typical symptoms of true hyperthyroidism, such as the loss of weight, tachycardia, cardiac fibrillation, hypertrophy of the gland, exophthalmus, and elevated B.M.R., and those conditions simulating disease of the thyroid, such as nervous exhaustion, general physical decline, menopause, psychoses, infected tonsils neuro-vegetative dystonia.

It is insisted that the operative incision should be of ample length so that all the anatomical structures of the neck are exposed. It is remarked that a scar of the neck is a scar regardless of its length, but that a few inches more are of extreme importance for the surgeon in connection with the security of the surgical operation.

Anesthesia in all the patients of the series was produced by the local infiltration of the operative area with one per cent novocain, preceeded, in the earlier years, by the hypodermatic administration of ¼ grain morphine and 1/100 grain hyoscin about half an hour before patient was taken to the operating room. In recent years avertin has been substituted for the morphine and hyoscin. The author now prefers avertin because it is less toxic and there is a profound and durable sleep.

Remarking that it was observed in several surgical clinics that patients presenting a marked hyperthyroidism, and who had had a normal or subnormal blood iodine after the administration of Lugol's solution, were those who presented greater risk of recurrence of the hyperthyroidism after subtotal thyroidectomies, it is advised that in such patients a more considerable quantity of thyroid tissue should be removed at operation, and in that connection the statement is made that now the percentage of blood iodine is determined in all patients during the period of preoperative investigation.

Finally, there is a short reference to the comparative results of X-ray therapy, and a surgical operation for the removal of the proper amount of thyroid tissue. It is the definite conclusion of the author that a properly performed surgical operation produces results very much superior to those produced by X-ray therapy.

COMMENTS: Dr. Valin, the author of this article, is Director-General de L'Association des Medecins de Langue Francaise de l'Amerique du Nord, and is one of the well-knewn French Canadian surgeons. The article is written in a systematic, logical manner. We consider it a very important contribution touching the treatment of diseases of the thyroid gland.

LeRoy Long and LeRoy D. Long.

The Treatment of Postoperative Tetany with Dihydrotachysterol; Pickhardt and Bernhard; Annals of Surgery; September, 1938; Volume 108, No. 3, page 362.

Holtz and his coworkers were among the first to observe that very large doses of "Vigantol," a German preparation of irradiated ergosterol, led to a series of toxic symptoms, designated by some authors as hypervitaminosis D. Hypervitaminosis D has as one of its characteristic features a hypercalcemia. The main symptoms of this condition include headache, nausea, vomiting, hematuria, and a moderate elevation of blood pressure. An abnormally high calcium level in the serum, over a relatively long period of time, results in the deposition of calcium salts in the heart, blood vessels, kidneys, and other organs of the body.

Holtz searched for a toxic factor as a possible cause of the hypervitaminosis and found that by prolonging the irradiation of ergosterol under certain conditions he could destroy, in large part, the antirachitic factor, vitamin D, but that the "calcinose" factor was still present. Extensive investigation of the action of the "calcinose" factor by Holtz and his associates was undertaken on both normal and parathyroidectomized animals. The results indicated that this "calcinose" factor caused a marked increase in the amount of calcium in the serum of normal animals with a deposition of calcium in the organs of the body; in the parathyroidectomized animals appropriate amounts of this "calcinose" factor elevated the serum calcium to normal and prevented the symptoms of parathyroid insufficiency. Similar results have been obtained in the author's series of patients following the development of postoperative hypoparathyroidism.

Holtz and his coworkers described this preparation which they call "A. T. 10" and which is now designated chemically as dihydrotachysterol. This compound, although derived from irradiated ergosterol, differs from the parent substance in that it is almost devoid of any antirachitic action, while the calcium mobilizing factor persists and exceeds that of viosterol.

The authors conclude that the new therapeutic agent, dihydrotachysterol ("A. T. 10"),, has great value in the control of postoperative tetany, and the symptoms can be alleviated within 42 to 72 hours after instituting treatment. These patients are usually irritable, extremely nervous, and physically played out, and certainly the removal of these symptoms, as soon as possible, is of the utmost necessity.

Therapy with dihydrotachysterol must be strictly individualized, that is, the blood calcium level must be carefully checked at intervals before and after medication has been instituted. Until the maintenance dose has been determined, the amount of "A. T. 10" given by mouth, may vary from 1 to 3 cc. every other day to 1 to 2 cc. per week, depending on the severity of the deficiency. The authors have on occasion administered dosages as high as 10 cc. daily for a period of several days, but during this period they kept a careful check on the patients' serum calcium findings. The product is not harmless and excessive dosage may well induce symptoms of hypercalcemia.

They make a plea for the routine determination of serum calcium both pre- and postoperatively in all thyroid surgery.

This new substance, in their hands, has been of definite value, both from a subjective point of view and in the control of tetany. Their observations, taken in conjunction with those of Holtz and his coworkers, suggest that dihydrotachysterol merits further chemical study and is recommended for the treatment of postoperative hypoparathyroid tetany.

LeRoy D. Long.

A Comparison of the End-Results of Treatment of Endocervicitis by Electrophysical Methods: Cautery Coagulation, and Conization; Jacoby; American Journal of Obstetrics and Gynecology; October, 1938; Volume 36, No. 4, page 656.

This investigation was employed to determine the comparative estimate of end-results in patients treated by the three methods of cautery, coagulation, and coning of the cervix. One hundred and fifty cases were used, 50 each treated with cautery, coagulation, and coning.

The technique for the three types of procedure have been adequately described and are not repeated but the author feels that the simplest of the procedures is coagulation, then cauterization, and the most difficult is conization.

Of the 150 cases 138 were followed to a point of complete cure which was determined as freedom from symptoms and eradication of pelvic pathology. Fifty of those completely followed were of the group treated by coagulation and 44 each in the groups treated by cauterization and conization.

"The average length of time required to cure patients treated by cauterization was four months. The average length of time required to cure patients treated by coagulation was seven months. The average length of time required to cure patients treated by conization was 7.3 months."

"Repetition of the same or one of the other methods was necessary in one case originally cauterized, in five cases originally coned, and in six cases originally coagulated." The author has also tabulated the number of patients who formed cysts of Nabothian character in the different groups and there were four patients treated for this difficulty who had been originally cauterized, nine who had been originally coagulated, and 17 who had been originally coned.

There was moderate stenosis of the cervical canal in six patients treated by coagulation.

"Acute inflammation of the tubes and ovaries developed in four patients treated by coagulation and in three treated by conization."

It is the author's conclusion that all three methods are satisfactory for removing the diseased cervical mucosa. However, from his study, the patients treated by cauterization were cured more quickly and with fewer complications than by the other two methods.

He also feels that in all instances Nabothian cysts and cervical erosion are best treated by cauterization.

It is also his contention that the cautery is superior to the other two electrophysical methods for treating chronic cervical inflammation.

COMMENTS: In the abstracts submitted for this column last month an article by Dr. Norman Miller on the advantages and disadvantages of conization was summarized.

It is extremely interesting to get this carefully controlled group by Jacoby employing the three different methods in an equal number of patients. It was Miller's contention that the simpler cervical lesions could be well treated by cauterization, whereas the more serious and extensive lesions were better treated by conization. It is herewith Jacoby's opinion that cautery is the superior method in all of the chronic cervical inflammatory lesions that he sees.

From these two careful studies, one is able to draw the conclusion, when combined with one's own practical experience, that all three of these methods of treating chronic cervical lesions can be recommended in particular types with the actual cautery being superior for all erosion and Nabothian cysts and being almost equal, if not equal, in advantage to the other three methods for the treatment of the chronic endocervicitis group.

It is an interesting fact that in this group, at least, and in others the complications were slightly more frequent and more severe in the coagulation group.

Wendell Long.

Supravaginal Hysterectomy, A Review of 535 Consecutive Personal Cases; Walter T. Dannreuther, New York City; The American Journal of Surgery; September, 1938; Volume 41, page 373.

In this series careful attention was paid to the condition of the cervix and supravaginal hysterectomy and not performed unless the cervix was an innocent one or had received preliminary treatment.

Very careful attention was paid to the preoperative preparation of the patients with particular emphasis placed upon blood transfusions in anemia, proper correction of diabetic condition and of cardiovascular disease.

The technique employed by Dannreuther is given in considerable detail.

The postoperative complications occurred in 65 of the 535 patients and are carefully broken down into tables for study.

There were nine deaths with a mortality of 1.7 per cent.

It will be interesting to read the conclusions of the author which follow:

"1. Supravaginal hysterectomy is the most popular and widely practiced method of uterine extirpation.

"2. Its selection in individual cases should depend more upon the condition of the cervix than the convenience of the operator.

"3. Extensive cervical disease, malignancy, and potentially malignant lesions are absolute contraindications.

"4. The vaginal surface of the portio must be completely epithelialized and the endocervical canal free from infection and inflammatory products, to justify cervical retention.

"5. Many damaged cervices can be reconverted to a healthy state before operation.

"6. The incidence of subsequent carcinoma of the cervix is no higher after a supravaginal hysterectomy in properly selected cases than in women who have never been operated upon.

"7. Adequate preoperative preparation of the patient is important.

"8. Hysterectomy can be done more rapidly with clamps than with primary ligatures and the use of clamps does not predispose to postoperative embolism.

"9. When there are raw areas that cannot be satisfactorily peritonealized, sheets of gutta-percha tissue are useful to prevent visceral agglutination.

"10. In a series of 535 consecutive personal cases the morbidity was 11.0 per cent and the mortality 1.7 per cent.

"11. Eliminating one death which was due to a diagnostic error, and two others which might have been obviated by an earlier appreciation of the necessity of interference to relieve intestinal obstruction, the mortality should have been 1.1 per cent."

COMMENTS: This is a very sound review of a constructive series of patients. It is not remarkable for a particularly low mortality or complication percentage. However, there is an excellent discussion of the proper preliminary treatment of the cervix and the instances in which Dr. Dannreuther feels the cervix may safely remain.

While vaginal hysterectomy and complete abdominal hysterectomy have a definite and invaluable field of usefulness, supravaginal hysterectomy will certainly be found to satisfy the criteria more satisfactorily in the average instance where

the uterine body should be removed because of disease of that organ. It naturally should be employed only after very careful consideration of the pathology and limited to individuals where there is a clear indication for operation. In the event that it is employed, the cervix should be most carefully examined, biopsies taken where necessary, and mild disease corrected if the cervix is to be left in situ.

Wendell Long.

The Miller-Abbott Double Lumen Tube in Intestinal Obstruction; Robert A. Wise; American Journal of Surgery; September, 1938; Volume 41, No. 3, page 412.

Treatment of intestinal obstruction (paralytic or mechanical) is always difficult. These seriously ill patients will not survive an exploratory operation. Simple enterostomy often fails to alleviate. The method described is an elaboration of the so-called Wangensteen method of decompression of upper intestinal tract. The author reports striking results.

The double lumen rubber tube (ten feet long and 16 French in diameter) was devised by Dr. T. Grier Miller and Dr. W. Osler Abbott, who have made studies concerning secretion and absorption in small intestine. They with Dr. I. S. Ravdin suggested this tube be used in the treatment and diagnosis of intestinal obstruction at a joint meeting of the New York and Philadelphia Surgical Societies on February 9, 1938.

The tube is described as follows: "A rubber septum extends throughout its length, making it into a double lumen tube. The inflation tube opens into a soft rubber balloon; the suction tube has several openings at its distal end and terminates in a metal tip. When the tube has passed the pylorus and the balloon is inflated, it will be carried, by peristalsis, down the entire length of the intestine. As it traverses the intestinal tract, suction is applied which removes fluid and gas from each distended loop. It is possible with this tube to deflate the entire gastrointestinal tract in patients with intestinal obstruction from whatever cause—mechanical or paralytic."

The patient is placed on the right side where he is kept from two to six hours. The tube is introduced through the nose. Technique of passage of the tube so that it will go through the pylorus into duodenum is described. It is important that one know when the tube has passed into the duodenum.

Once the tube is in the duodenum, 30 cc. of air is injected into the balloon, the balloon tube clamped and constant Wangensteen suction applied to the suction tube. Each hour six inches more of the tube is inserted until the eight-foot mark is reached. The suction tube is irrigated each hour with 20 cc. of water.

The author reports three cases which illustrate the use of the tube in: (1) paralytic ileus, (2) mechanical obstruction, and (3) as an aid in the diagnosis and location of an obstructive lesion in the small intestine.

The case of paralytic ileus followed a severe trauma to the hip with fracture. All usual measures to deflate the abdomen had failed and the patient's condition was becoming progressively worse. The relief afforded in this case by the tube was most rapid and within 48 hours the patient was cured of his ileus. No operative procedure could have accomplished this.

The second case reported had a partial mechanical obstruction of the small intestine (probably associated with umbilical hernia) which rapidly became complete. The benefit afforded by the tube in this case was stated to be miraculous, the distention being relieved and the obstruction disappearing. The patient took fluids and semi-solids within 48 hours.

One agrees with the author that "had the obstruction remained even after deflation of the abdomen, and operation been necessary, the tube would have been a great aid in locating the point of obstruction.

The third case reported was due to adhesions following several operations but the site of obstruction of small bowel was unknown. It was possible by using this tube to locate the site of the obstructive lesion in the lower ileum. This greatly facilitated the ease and dispatch with which the patient was relieved at a subsequent operation.

LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M.D.
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Applied Mechanics of Cataract Extraction. Edward Jackson, M.D., D.Sc., Denver, Colorado. American Journal of Ophthalmology, September, 1938.

The function of the different coats of the eyeball is discussed in detail. One is reminded of the fact that the cornea extends under the scleral margin and that it is thicker at the margin than in its center. Jackson says: "Operations throughout must be planned and carried out with the least possible damage to tissue nutrition and function, consistent with the removal of the opacity obstructing vision.

Beer's, Graefe's and Jaeger's cataract knives are discussed. The Graefe seems to be the most popular. The corneoscleral incision is discussed with an accompanying diagram. The author says the placing of this incision has much to do with the subsequent healing of the wound. He tries to place the corneal incision exactly in the corneal margin, getting the conjunctival flap, when it was considered necessary, by turning back the cutting edge as the incision is completed.

The opening of the lens capsule is next discussed. Jackson is of the opinion that the posterior capsule takes little or no part in the formation of a secondary cataract. Of 49 cases examined for end results it was found that only eight required a secondary operation for capsular opacity. Blood in the anterior chamber or the exudate of a severe uveitis usually preceded these opacities. The making of the puncture and counter-puncture in the sclera divides the corneal ring and so lessens the ability of the tissue around the incision to retain its shape and apposition.

The capsulotomy does not require removal of the lens as a whole, but only the removal of the firm nucleus. The remaining cortex in the capsule disintegrates without causing uveal inflammation. Jackson does not think there is a justification for the so-called "Indian intramuscular extraction" except in cases where the patient comes a long distance and can stay only a few days (as in India). He maintains that the removal of the capsule breaks down the normal division between the anterior and posterior contents of the eyeball.

Corneal section causes or increases astigmatism, usually against the rule. This gradually diminishes, being greatest soon after operation. Even after the astigmatism has ceased to decrease as time goes on, hyperopia may still show a slow increase. This may indicate that it takes a long time for the eye to become adjusted following an operation. Conjunctival sutures and fixation of the rectus tendon by a stitch are frowned upon by Jackson. He says the uncut corneal ring is a better guarantee of healing. The paper is original without bibliography.

The Management of Intra-Ocular Foreign Bodies. William H. Evans, M.D., Youngstown, Ohio. The Eye, Ear, Nose and Throat Monthly, September, 1938.

This is a resume of the experiences of an ophthalmologist who is located in an industrial community. From a patient with history of an eye injury routine examination should consist of: checking vision of both eyes, an external examination for abrasions or wounds of the cornea, conjunctiva, sclera, iris and lens, (fluorescin stain should be used), note pupillary reaction, ophthalmoscopic examination, translumination, and the slit lamp should be used in all cases. After this preliminary examination is made a temporary dressing is applied and the patient is hospitalized. Atropine and bichloride ointment are used before the dressing is applied.

X-ray should be done, not necessarily before removal of the foreign body—if it is easily located and removed—but surely afterwards as there have been instances where one foreign body has been removed successfully and the second one present overlooked because of failure to take a picture. Very soon after seeing the patient the author routinely gives some form of foreign protein. He uses one of the following: 20 million of triple typhoid vaccine intravenously, 5 c.c. of boiled milk or of lactigen intramuscularly, or 20,000 units of diphtheria antitoxin subcutaneously. This is done every three or four days following. Acetyl salicylic acid or sodium salicylate, gr x, is given every three hours. Sulfanilimide, gr xv, is given every four hours for the first few days.

Extrusion of foreign bodies spontaneously have been reported. Migration of the body backward has never been reported. Probable causes of an extrusion are: Contraction of a fibrinous band that extends from the foreign body to the point of perforation; suppuration at the point of perforation weakens the body wall; compression of the globe by extraocular muscles; pull on the choroid by the ciliary muscle in accomodation, through action of currents in the intra-ocular fluids. Okabe's report of the action of common metals on the retaina of rabbits is given. The metals mentioned are: Copper, nickel, lead, brass and iron.

Before any procedure is instigated it is essential to know: whether or not the foreign body is magnetic, location in the globe and its size. The author in discussing the procedure to be carried out divides the discussion under the following heads and gives the method of removal:

A. Magnetic foreign bodies:
   1. Magnetic foreign bodies in the anterior chamber.
   2. Magnetic foreign bodies in the lens.
   3. Magnetic foreign bodies in the vitreous.

B. Non-Magnetic Foreign bodies:
   1. Non-magnetic foreign bodies in the anterior chamber.
   2. Non-magnetic foreign bodies in the lens.
   3. Non-magnetic foreign bodies in the vitreous.

Each individual case must be studied carefully before one can decide what course will be pursued. The patient or some member of the family or both should be told of the gravity of the case. To prevent separation of the retina when there is a wound or incision of the sclera, cautery, thermophore or electrocoagulation is recommended. As soon as possible all foci of infection should be removed. Frequent consultation is advisable.

The graver complications are usually due to infection or trauma, so handle tissues carefully. Complications mentioned are: Panophthalmitis, iritis and iridocyclitis, separation of the retina, sympathetic ophthalmia, glaucoma. The patient should be kept under observation for quite some time following the removal of a foreign body to note any visual changes. A bibliography is appended.

Dietary Treatment of Chronic Sinusitis. Burt R. Shurly, M.D., Detroit Mich. The American Journal of Surgery, October, 1938.

Note: The entire October edition of this journal is devoted to an Eye, Ear, Nose and Throat Symposium; there are some 280 pages; contributors are the leading men of this speciality in the United States; this would be a valuable addition to your library.

A brief review of the history of sinus infection is given with the author's experiences during his practice. It is more of a general talk, which is characteristic of Dr. Shurly. He finally arrives at the following conclusions:

The treatment of chronic sinusitis calls for surgical intervention. Dietetic treatment should be used as a therapeutic aid.

The prophylactic treatment in early infancy may offer much in preventing bony malformations of the nose and sinuses, by a proper use of vitamin D, particularly in milk and eggs and leafy vegetables.

Vitamin A, deficiency may appear as a borderline manifestation and influence the resistance to infection, with lowered vitality of tissues, especially in the ear, nose and throat.

Vitamin C, as a preventive of scurvy, has a special influence on the mucous membranes of the gums, nose and mouth.

The value of raw vegetable juice and mineral salts lies in promoting cell growth and selection.

Special attention to endocrine balance with the use of iodine and thyroid extracts is worthwhile in establishing vasomotor tones.

Food allergy must be determined by special tests and history. The prevention of sinus infection at the time of the removal of tonsils and adenoids, may require special dietetic treatment and cod liver oil.

More than 20,000 units of vitamin D per kilogram of cod liver oil may result in intoxication with symptoms of hyperparathyroidism.

In a case of chronic sinusitis, after necessary surgery special inquiry should be made regarding the diet of the individual, so that the physician may give inteligent advice toward increasing resistance to infection.

Spontaneous Hemorrhage into the Maxillary Sinus. Sobisca S. Hall, M.D., and Harvey V. Thomas, M.D., Clarksburg, W. Va. Archives of Otolaryngology, September, 1938.

Literature of the last ten years contain only two references to this condition. Communications in 1933 with seven of the outstanding rhinologists revealed that only one of them had observed the condition in his long experience. Books published by Gradle, Bishop, Thomson, McKenzie, Hajek, Ballenger and Ballenger, Phillips, Loeb, Jackson, Coates and Jackson and Skillern make no mention of this condition. The blood supply of the antrum is discussed but the various books and authors are rather indefinite—the point of entry of the vessels into the antrum is not given.

The authors have observed 12 persons in the last ten years of their practice or about one patient in 1,400 in their practice. These were made up of five women and seven men; ages 31 to 66 years; the right antrum was involved in five cases and the left in seven; no bilateral hemorrhage occurred; hemophilia nor vicarious menstruation were present; all were American born; blood pressure in all patients was normal; there was no history of a preceding trauma, such as a direct blow or a violent blowing of the nose or any similar incident.

X-ray showed a pre-existing or coexisting, hyperplastic maxillary sinusitis in 10 of the 12 cases. In hyperplastic disease new capillaries occur but the authors are of the opinion that there must have been a gross lesion of one of the major antral vessels because the hemorrhage was too persistent and

too severe to have originated from a minor capillary bed. They arrived at this conclusion from the evidence of the gross and microscopic examination. Tuberculosis, malignancy, ulcer, syphilis and a physical rent were ruled out.

The Wasserman was negative in all cases. The symptoms complained of were constant burning pain during the bleeding located in the inner canthal region of the eye of the side involved, the bleeding felt as if it were actually in the eye; there was a burning, itching and tickling sensation high in the nose of the affected side. Sudden and expulsive hemorrhage would occur of bright red blood, stopping and starting again without known reason. The authors thought that this stopping and starting could be explained possibly by a blood clot closing the ostium of the antrum until there was sufficient hemorrhage into the antrum to increase the pressure to the point to where there would be a sudden outpouring of fresh blood. Periods between bleeding varied from a few minutes to several hours.

On 10 of the 12 patients an external radical operation was done; two patients were not operated. The 10 were operated to control hemorrhage and to obtain a correct pathologic picture as the possibility of a malignancy was considered. The last two patients the hemorrhage was controlled by antral lavage. Microscopic examination of the tissue obtained in the radical operations showed nothing more than a hyperplastic mucous membrane. All patients recovered. The authors are of the opinion that had literature on this subject been available all but one of the radical operations could have been avoided and the hemorrhage controlled by antral lavage.

PLASTIC SURGERY

Edited by
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Arteriovenous Aneurysms. Mont R. Reid, M.D., and Johnson McGuire, M.D. Annals of Surgery, October, 1938, Vol. 108, No. 4.

In 1925, Reid published a series of four papers under the general title of "Studies on Abnormal Arteriovenous Communications, Acquired and Congenital." In these articles the literature of the subject was rather extensively reviewed. He put forward the thesis that there was no essential difference, except in the size and number of arteriovenous fistulae, between angiomata, cirsoid aneurysms and arteriovenous aneurysms; and this view has been rather generally confirmed.

Thirty-three cases were reported and the clinical studies of them, together with laboratory investigation, formed the basis for certain remarks concerning the effects upon the body of abnormal arteriovenous communications, and their treatment. At that time the author realized that there were many matters in connection with this subject which hadn't been solved; that further investigations of it would yield important physiologic, pathologic and therapeutic observations. This has not only proven to be true, as witnessed by the important contributions upon the subject, but has led to by-paths which give promise of yielding important observations concerning conditions which are more frequently encountered than are abnormal arteriovenous communications. We have in mind cardiac disabilities, especially aortic insufficiency and cardiac failure, the state of the capillary bed, the normal absence of capillaries in certain parts of the human body and of other animals, blood volume, circulation time, etc. Indeed, rarely has the investigation of such an infrequent clinical condition been so fruitful of important collateral contributions. This field of investigation seems limitless for new problems always present themselves, and there are still many old ones which have not been solved.

"The purpose of this report, the authors state, 'is to present another series of 30 cases (12 in detail) to discuss our clinical observations and surgical procedures and to supplement, whenever pertinent, these clinical studies from observations made in our laboratory of experimental surgery.'

"They give a history, physical findings, and operative procedures in each case. Each case is accompanied by a clear cut photograph with explanatory legends attached.

It is impossible to abstract all of the details of this very fine article on this subject. Results of the experimental work is given in detail. The authors bring out the facts relative to damage to the heart caused both by arteriovenous and cirsoid aneuyrisms."

Author's summary:

1. An analysis of 21 cases of arteriovenous and nine cases of cirsoid aneurysms is presented, which is supplemented by observations upon experimentally produced arteriovenous aneurysms in dogs.

2. Sixteen of the arteriovenous aneurysms were operated upon and all except one case of pulsating exophthalmos, were cured. In two instances the aneurysms healed spontaneously without operation. Four patients failed to return and could not be traced. All nine cirsoid aneurysms were operated; three cured and six improved. No deaths in all 30 cases. Total of 39 operations upon the 24 patients who were subjected to surgical treatment.

3. Clinical and experimental observations were discussed in detail which may throw some light on the physiologic and pathologic effects of arteriovenous fistulae.

4. In our limited clinical and experimental observations we could not confirm Holman's findings of a marked increase of the total circulating blood.

5. A Venturi meter was used in some of the experiments to measure the flow of blood in a segment of the vena cava. An easy method of making an arteriovenous fistula which can be alternately closed and opened is illustrated.

6. The time to operate and the standard curative operative procedures, are discussed. Two new operative procedures are illustrated and described in the case reports.

COMMENT: There is very little to add to such a complete report as the authors have presented.

I should like to call the attention of anyone interested in this subject to this particular article. The entire essay cannot be abstracted conveniently.

Some Observations on the Repair of Cleft Lip, by Neal Owens, New Orleans, La. From Southern Medical Journal, September, 1938.

The author has a well written article concerning various phases of harelip surgery. He mentions that authors in general are not satisfied entirely with the final result. He quotes Blair as saying that "with one notable exception it is doubtful that a single broad principle, advantageously applicable to the unoperated upon cleft lip or palate of the infant has been established in the past half century." He says further, "that there is reason to believe that the results obtained by some of the earlier surgeons compared favorably with those of today." The above statements reflect the feeling of most surgeons engaged in the repair of cleft lip and palate. There is one hopeful aspect regarding the management of these cases: Due to a more thorough knowledge and a greater understanding, both on the part of the medical profession and patients, individuals with facial clefts are more than ever before being referred to men who are adequately prepared to carry out their repair.

The author states that he is not offering any new principle, but merely commenting on some of the difficulties encountered in the repair of these defects.

"Historical: Operations for the repair of facial clefts are among the earliest described in the literature and according to Velpeau, Celsus and other earlier surgeons, pared and sutured the harelip and made relaxation incisions on the inner surface of the cheek. Blair, in attributing this operative procedure to Celsus, said that after his death the fine points of the art were lost, and it was not until the second quarter of the 19th century that we find the earlier practices again recommended. The first successful closure of a complete palate is attributed to LeMonnier (Kirkham), the operation being accomplished by abrading the edges of the cleft with an actual cautery. In 1825, Mannoir, of Geneva, again called attention to the recommendation of Franco in 1561 that the posterior surfaces of the two halves of the lip should be separated from the bone as far back as the cheeks prior to the closure of the lip cleft. A staphylorrhaphy was performed by Stevens, of New York, in 1827. Velpeau is given credit for recognizing that the prime requisites for the repair of harelip are abrading the border and maintenance of perfect contact. Husson in 1836 recommended that the denuding incisions, in paring the lip, should be made concave. Following this, Mirault in 1944 gave his classic description of the operation of flap formation for the repair of cleft lip. Bell recognized the necessity of extending the incision into the floor of the nostril for the correct repair of incomplete cleft of the lip. Ambroise Pare, in 1541, described obturators for the closure of clefts of the palate. Although the production of the first artificial palate is attributed to Delabarre (Blair) in 1820, Diffenback, in 1834, reported the first operation for the cure of clefts involving the hard and soft palate. This procedure included the liberation of muco-periosteal flaps through lateral incisions close to the alveolar border. These flaps were raised, approximated in the mid-line and their median borders sutured. Baizeau in 1858, and von Langenback, in 1861, claimed originality for this operation. Cases of hard and soft palate clefts were reported cured in 1842 by A. Mason Warren, of Boston, by the raising of muco-periosteal flaps which were sutured in the midline without making lateral incisions. Diffenbach, eight years prior to his description of the operation in which he raised muco-periosteal flaps for the correction of cleft palate, successfully closed a cleft palate by doing an osteotomy of the palate process, followed by suturing the pared medial borders of the cleft in the mid-line. Billroth, in 1861, abandoned cutting the tensor palati tendon by fracturing the humular process. Thiersch in 1867 successfully closed a cleft of the palate by means of a full thickness flap taken from the cheek. Following this, Rotter, in 1889, successfully closed the same type of defect by means of a forehead pedicle flap which he previously grafted on the under surface with a Thiersch graft.

The etiology of this congenital deformity is unknown, although many factors have been offered as an explanation of its cause. Heredity, disease, pressure, and chemical changes stand out as the most plausible at the present time. Fraser, Beatty, and Lyons feel that heredity plays an important role and offers the most probable explanation of the etiology of this condition. Beatty says that several writers have shown the hereditary nature of this malformation and that a cleft palate so frequently co-exists with other remote developmental deformities that it forms a rather convincing argument against the accidental etiology of the condition. Beatty, in commenting further on the etiology of this deformity, says that some breeders of small animals claim that cleft palate is much more likely to appear in the young of inbred strains. He also says that the hereditary tendencies to these defects play such an important part in many of his case histories that they cannot be ignored. Lyons is in accord with the opinion that hereditary influences are the most important factors of etiology. Based on a study of 2,000 cases, he feels that there is an abnormal condition present in the germ plasm of one or both parents. The hereditary factor has been strongly suggestive in some of our cases. In one family three sisters were born with clefts of the lip and palate, of varying degrees. Another patient operated upon was of the third generation in this family to be born with a cleft of the lip, the mother and the grandmother before her having been born with this congenital defect. J. S. Davis, in a very thorough study on the incidence of congenital clefts of the lip and palate, says that definite conclusions cannot be drawn as to the relative importance of various possible etiological factors, although in his series of negroes syphilis must be considered. He also says that it is possible that the frequency of occurrence of congenital clefts of the lip and palate may vary in different parts of the world, supporting this statement by an analysis of the statistics compiled from the draft record of the defects found in the first 2,500,000 men examined for the U. S. army in the World War. In this latter analysis he found that the ratio of occurrence of congenital clefts of the lip and palate per 1,000 men examined was 1.55 in Vermont as compared to 0.16 per 1,000 in Arkansas. Ritchie says that a definite mechanical force affecting the inactive tissue appeals to him as a reasonable basis for discussion in considering the etiology of this condition. Frazer, in noting that the fissured condition occurs only where a cleft exists normally at an earlier period in the embryo, claims that this does not exclude the possibility of mechanical intervention's figuring in the causative role. In fact, it is where the fissure would be expected to exist if intervention occurred before the closure of the palate. He apparently places little credence in the theory that amniotic or epidermal bands act as causative factors in producing fissures, saying that an epidermal band in the line of a persistent cleft might be the effect and not the cause of the condition. Ritchie feels that the embryonal development of the active tissues probably offers a reasonable basis for a discussion on the etiology of facial cleft. Social status has long been considered by some as a possible etiologic factor in the formation of facial clefts and other developmental deformities, although this is certainly not borne out in Davis' statistical analysis where social status was apparently of little importance since a smaller number of clefts (percentage) occurred among the negroes where conditions were unfavorable. This was noted, however, that clefts occurred more frequently in the public ward series of white patients (one out of every 895 deliveries) than occurred in the private ward series of white patients, where the ratio was one out of 981 deliveries. Fraser is inclined to give credence to the theory that chemical changes is the factor of importance in the etiology of this condition and says that the tendency of modern teratological work is to show that the various degrees of monstrosity and defects can be produced as the result of certain salts in comparative excess on the developing embryo are particularly striking in their production of definite and more or less localized deformities.

Mall is quoted as saying that we need no longer seek for mechanical obstruction which may compress the umbilical cord, such as amniotic bands, for it is now clear that the impairment of nutrition which naturally follows faulty implantation or the various poisons which may be in a diseased uterus can do the whole mischief. There has been little or no evidence to cause one to assume that age or race play any role of importance as predisposing causes of facial clefts. The old suggestion of pre-

natal influence has probably been discarded as a possibility by every one.

The author has an excellent discussion of the statistics based on reports of Froebelius in 1865 which vary greatly to those of reports of John Staige Davis of Baltimore on the Johns Hopkins Hospital Obstetrical service. He makes quite a detailed account which is very interesting and shows much time and thought, and well worth any surgeon's time who might be interested in this type of reparative surgery.

The author has some timely illustrations and photographs which are very good.

The author recommends careful study and thorough examination before any operation is undertaken. He also mentions the preliminary procedure carried out by various men.

He also recommends intra-tracheal anesthesia with cyclopropaine. He also outlines some important points in operative technique as well as postoperative care.

Conclusions: The author has given a very fine essay on the subject of cleft lip and palate. He has detailed the history somewhat as well as techniques concerning this problem. The article is accompanied by photos of end results which seem equal to plastic surgery throughout the country.

It is gratifying to note that he believes in thorough pre-operative procedure.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D., F.A.C.S.
717 North Robinson Street, Oklahoma City

Ambulatory Method of Treating Femoral Shaft Fractures, Utilizing Fracture Table for Reduction. Roger Anderson. Amer. Jr. of Surgery, XXXIX, 538, March, 1938.

The author gives a continuation of his well-known method of pin fixation and reduction of fractures of the femur, using two pins above and two below. He stresses the importance of spiral fractures causing difficulty due to locking of the fragments, and that overtraction is often necessary to obtain proper reduction.

A series of cases is reported which shows excellent reduction of subtrochanteric and supracondylar fractures. The advantage claimed by the method is better control of the fragments and more rapid and secure reduction, which, when properly done can be maintained by the incorporation of the upper and lower pins in a well-fitting plaster cast. Two pins are used below to prevent lateral slipping of the lower fragment. The method is claimed to give much more rapid rehabilitation, less hospitalization, freedom of hip and knee movements, minimum of aftercare and thorough maintenance of fragments in correct position.

Giant Cell Tumor of the Cervical Spine. DeForest P. Willard and Jesse Thompson Nicholson. Annals of Surgery, CVII, 298, February, 1938.

Giant-cell tumor of the cervical spine is a comparatively rare lesion. The authors estimate that the lesion occurs in the vertebrae in about 8 per cent of the cases. The cervical vertebrae are reported involved in seven instances. A decided majority of all giant-cell tumors occur in individuals over 20 years of age, but the majority of vertebral lesions are found in individuals under 20 years of age.

Giant-cell tumor is classified as non-malignant, but Coley and Meyerding reported the cases of patients who died of metastases. Geschickter and Copeland recognizes a "malignant variant which is the result and not the cause of recurrence." They also claim that the "malignant variant" structure is primary and, if recurrence results, metastasis is apt to follow. One would infer from this that inadequate r e m o v a l is responsible for secondary changes in the tumor.

The authors conclude that the treatment of choice is curettement; if this fails resection or amputation must be performed.

The case reported by the authors was that of a white female, aged nine. When the child was first examined, it was believed that there was a forward dislocation of the right inferior facet of the third cervical vertebra. She was treated in hyperextension for two weeks without any results and then a Walton manipulation was done, followed by application of a plaster cast to the head and the torso. Several weeks later when the cast was removed, roentgenographic examination revealed the presence of a rounded cystic tumor, projecting posteriorly from the fourth cervical vertebra. The tumor was completely removed by laminectomy. Pathologically, it resembled the spindle-cell variant of giant-cell tumor recognized by Geschickter and Copeland. One year after removal the patient was free from symptoms and roentgenographic examination did not show any recurrence.

INTERNAL MEDICINE

Edited by Hugh Jeter, M.D., 1200 North Walker, Oklahoma City

Relation of Drug Therapy to Neutropenic States. Chairman's Address. Roy R. Kracke, M.D., Emory University, Georgia. The Journal of the American Medical Association, October 1, 1938, Vol. III, No. 14.

In this the author, one who has been an authority on the subject of agranulocytosis particularly upon the role played by drugs in the etiology of agranulocytosis, has carried up to date data of extreme interest in this connection.

The incrimination of aminopyrine in the production of neutropenic diseases is based on geographic studies, population as related to habitual use of drugs, cases in which the administration of drug has been recorded and the occasional case in which the administration of aminopyrine has been a factor and who had recovered to have subsequent reproduction of the disease.

Evidence all seems to indicate that the occasional person who acquires the disease after the administration of the drug does so on the basis of hypersensitivity to the drug. The amount of the drug, therefore, does not play an extremely important part.

Attention is called to a recent report of Plum in which it is seen that since the restriction of the sale of aminopyrine in Denmark, the disease has disappeared. Previous to this, reaching a peak in about 1934, the incidence in Denmark paralleled that of other countries. An extremely interesting chart is given in this connection.

Reports of cases of agranulocytosis following the administration of sulfanilamide are also given. Table No. 1 lists the author's dates and other important data in this connection. Table No. 2 lists drugs reported to have caused agranulocytosis as follows:

Table 2

Drugs Reported to Have Caused Agranulocytosis*

	No. of Cases
Aminopyrine	Over 300
Dinitrophenol	7
Arsphenamine**	20
Antipyrine	2
Derivative of aminopyrine (novaldin)	2

Acetanilid?	2
Acetophenetidin (phenacetin)?	3
Cinchophen (atrophan)?	1
Antimony compound (neostibosan)?	8
Sulfanilamide	11
Quinine?	4
Gold salts?*** (Plum)	19

* The drugs known to be capable of producing the disease are not followed by a question mark: for the others, followed by a question mark, the evidence is not adequate.

** Hematologic depression limited to granulocytes only.

***Hematologic depression not limited to granulocytes.

Table No. 5 listing preparations that should be used with caution is also interesting.

Table 5.—Preparations That Should Be Used with Caution Because They May Depress the Leukocytes

Preparations Containing Aminopyrine

Allonal	Dymen
Alpnebin	Dysco
Amarbital	Eu Med
Amidol	Gardan
Amido-Neonal	Gynalgos
Amidonine	Hexin
Amidophen	Ipral-Amidopyrine
Amidopyrine (aminopyrine)	Kalms
Amidos	Lumodrin
Amidotal compound	Midol
Amifeine	Mylin
Aminol	Neonal compound
Am-Phen-Al	Neurodyne
Ampydin	Nod
Amytal compound	Optalidon
Analgia	Peralgia
Antabs	Phenamidal
Baramid	Phen-Amidol
Barb-Amid	Phenopyrine
Benzedo compound	Pyramidon
Cibalgine	Pyraminal
Cinchopyrine	Seequit
Compral	Yeast-Vite
Cronal	

Drugs Known to Produce Depression of the Marrow

Dinitrophenol	Antipyrine
Arsphenamine	Sulfanilamide
Novaldin	Sedormid
	(Thrombocytopenia)

The author believes that approximately 80 per cent of drug-produced agranulocytosis is caused by aminopyrine or one of its compounds.

There is evidence that there is decreased incidence in the United States.

COMMENT: This report continues to be a warning of tremendous importance to practitioners of medicine and the data herein produced seems to justify clearly the contention that agranulocytosis in many instances follows the administration of certain drugs. Personal experience, however, leads me to believe that other important factors of which infections of unusual type or of unusual circumstances, may also play a great part in the cause of this serious disease. Within the past three years I have had under observation a patient who is still living, is in better health than before her first attack and who had during the course of ten and one-half months, nine attacks of agranulocytosis wherein the temperature reached as high as 105.2° and the total neutrophile count zero. This patient was carefully observed in a hospital for 15 months and investigation continuously made as to the possibility of drugs being a cause, but no such history could be obtained. Previous to the first attack there had been two bone lesions, so far as Dr. O'Donoghue, the orthopedic surgeon in the case, and I have been able to determine, subacute osteomyelitis of first the right and a month later the left femur.

The Gordon Test for Hodgkin's Disease: A Reaction to Eosinophils. James B. McNaught, M.D., San Francisco. The Journal of the American Medical Association, October 1, 1938, Vol III, No. 14.

The author here has given more data concerning the Gordon test for Hodgkin's disease which was first instituted in 1932 and concludes that the Gordon test is of no more practical value in the diagnosis of Hodgkin's disease than is the finding of eosinophiles in the lymph nodes.

COMMENT: It appears that the biopsy of a lymph gland will give as much information and considerably more in some cases as the Gordon test and this is in keeping with my personal experience.

UROLOGY

Edited by D. W. Branham, M.D.
514 Medical Arts Building, Oklahoma City

The Steinach Operation for the Relief of Prostatic Symptoms. J. G. Yates Bell, London, England. Urologic & Cutaneous Review, October, 1938.

The author reviews the experience of other investigators with this procedure in the relief of prostatism. He details his experience in 28 cases treated in this way. Of these 28 patients he classified 15 as deriving some therapeutic benefit from the operation.

COMMENT: The great difficulty in evaluating any particular procedure in the treatment of prostatic hypertrophy is the lack of constancy as far as the symptoms are concerned. I have observed individuals suffering from early prostatic obstruction, voiding four and five times nightly who derived marked temporary benefit by the simplest therapeutic measures. Because of this fact, such a small series of cases as the author presents is worthless from a scientific viewpoint.

As far as the majority of American urologists are concerned they seem to have an unanimity of opinion that this operation is a futile gesture in the treatment of this disorder.

A Practical Method of Staining Treponema Pallida by Means of Low Surface Tension Stain. Robert D. Haire, M.D., Hobbs, N. M. Journal of Laboratory & Clinical Medicine, August, 1938.

By making use of a low surface tension solvent which increases the penetrating power of the stain, satisfactory demonstration of the syphilitic organism was possible in simple contact smears.

The stain is made by using hexylresorcinol solution as a solvent for gentian violet, making 1 per cent solution of the stain. The secretion from the chancre is placed on a slide and fixed by heat and the stain is applied for 30 minutes. Twelve known cases of syphilitic infection were successfully stained and diagnosed by this method.

COMMENT: I have seen a few of these stains and there is no difficulty in recognizing the organism. However, in these the typical spiral morphology is somewhat distorted and because of this I would hesitate to make a diagnosis from the stained smear alone for fear of confusion with other spirrillum.

Doubtless more experience in examining such smears will encourage confidence in this diagnostic procedure.

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